

# BEHAVIORAL ANALYSIS

Analysis of Clinical Observations of Behavior;  
As Applied to Mother-Newborn Relationships

*By*

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# INTRODUCTION

## SECTION I

**I**N a preliminary study<sup>1</sup> of the attitude of mothers towards their newborn infants a significant correlation was found between their ratings on a scale derived from interviews and a scale derived from observations.

The interviews were based on a standard set of questions concerning affection, interest and desire for babies and a self-rating of maternal attitudes. Based on previously established norms, the mothers' replies to questions in the interviews were scored and rated as highly maternal, above average, average, below average or non-maternal. Numerical values were given to these ratings.

Observations were made of mothers' behavior with their babies in hospitals, on two or three occasions, starting the moment the baby was brought by the nurse and ending when the baby was taken away. The records of the observations were listed for each case in appropriate "units" and numbered. The "units" were rated by 4 judges individually with plus, minus and zero signs to indicate positive feelings towards the baby, negative feelings or neither. The ratings of the judges showed a good measure of consistency. The average scores of their judgments of the observations made for each mother were correlated with the scores derived from the interviews. A significant and positive correlation resulted.

This finding was surprising in view of the subjective nature of the judgments of the observations. Their study revealed simply a consistency in the conventional interpretation of behavior. A mother who made kissing sounds, indulged in baby talk, and cooed to her baby was judged to be more maternal than a mother who did not display this behavior. A mother who made derogatory remarks to her baby, handled it roughly, or was inattentive to it was judged to be less maternal than mothers who gave no such evidence.

When the observations referred to were prevalent in the samples

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<sup>1</sup>Levy, David M., and Hess, Audrey: Problems in determining maternal attitudes toward new born infants. *Psychiatry*, 15:273-286, 1952.

submitted the judgments seemed fair enough. The only question that remained then was the adequacy of the number of samples.

The judgments however, were of unit observations, separate judgments of an average of 37 unit observations per case. Few cases were prevalingly minus. Most of the unit observations were scored plus. Also most of the observations were not as explicit as in the examples cited. In addition there was some confusion as to the scoring of items that were concerned with the usual maternal care, sometimes they were scored plus, sometimes zero. Nevertheless, a good consistency was maintained, and furthermore, the correlation of the scores derived from the judges and the scores derived from the interviews showed that when mothers were ranked from highest to lowest according to observations and interviews, there was a significant agreement.\*

Illustrations of an original record of observations (with obstetrical data), its rendering into a "unit record," the manner in which each unit was scored, an interview containing a standard set of questions from which a rating of maternal attitude was then derived and other technical details are listed in the appendix to this chapter. They have been taken from the article referred to (The records of all observations arranged into "units" are in the last chapter of this book, Appendix.)

Let us consider the first "observation units" in a record of a mother and infant as set forth in the appendix. Under "Baby's Behavior" we read "Nurse brought baby, baby screwed up face", and under the caption "Mother's Response" we read, "Mother laughed." All 4 judges independently scored this unit with a plus sign, to indicate that the mother's attitude toward the baby was in their judgment positive, accepting, or any other equivalent meaning which included the notion that there was a feeling in the particular response.

On the following day when the baby was two days old the first observation unit reads, "The mother was very excited to see the baby (she laughed and squealed)." Now each one of the same 4 judges scored the observation with 2 plus signs, indicating the most

\*These findings consistency in the independent ratings of the observations and the positive correlation of scores derived from interviews and observations were checked and confirmed in another investigation by a different group of workers Howard W. Potter and Henrietta R. Klein in *On Nursing Behavior* (in press).



positive maternal feeling they could assign. How could they be so sure?

One might infer from their experience in observing many mothers and babies that they had all come to the same notion as to the kind of behavior that depicts certain degrees of maternal feeling. However, since they had occasion to read all the records of observations, 2 or 3 separate records for each one of the nineteen mothers, they were able to compare a large number of responses which ran the gamut of no response at all when the baby was brought in by the nurse, to every variety of verbal, vocal, and demonstrative behavior.

The fact that there was a good agreement between them does not prove that they judged correctly. It means simply that they had the same or similar opinions, or that like many people they look at such behavior in a similar way. But is it possible to get something better than an opinion, something that enables us to say with assurance that in this or any other kind of relational behavior an attitude is present or absent, and also that if it is present, it is there in a large or a small amount?

When the nurse brings a baby to the mother for a feeding or a visit some mothers greet the baby, others do not. Is the presence or absence of a greeting proof of an attitude? While feeding the baby some mothers gaze at the ceiling. Is that really proof of a negative attitude towards the baby, as it was so judged by those who scored the records? How would you, the reader, devise a method of solving this problem? Is it possible to do so by careful analysis of simple observations of behavior? Is the presence or absence of an attitude thereby susceptible of proof? That is the basic problem of this investigation. The chapters that follow indicate the progress that was made in this quest. Each chapter remains largely as it was written originally without knowledge of the later findings. The reader can share the author's trials and predicaments and thereby attain a firmer grasp and a more valid critique of the data and the method of analyzing them. Whether his interest is primarily in the methodological study, of analyzing behavioral data and the determination of an attitude, or in the special study of maternal feelings in a mother-neonate relationship, he can enliven his interest by pausing for a while as each problem arises and giving some thought to his own solution before reading on. If he cares to do so, he has at his disposal all the data that were available to the author. Judg-

ing by the reactions of a group of students, the reader may after some striving for a method insist on large numbers of cases or on the psychoanalysis of every member of the group. Either objection sidesteps the question by insisting in advance that it can't be done. This kind of criticism is best deferred until the reader has given himself an opportunity of becoming familiar with at least a few of the chapters that follow. He may then become intrigued regardless of previous misgivings, with the problem of rendering clinical observations into a rigorous scheme for behavioral analysis.

## SECTION II

In general the method begins with the accumulation of records of 'ordinary' or simple observations, starting from the moment the nurse arrives with the baby until she returns and takes the baby away. The meaning of "ordinary" observations will be considered in a later chapter.

The observation record is divided into convenient units, each one representing a separable maternal response, usually to an activity of the baby.

The units are then numbered chronologically for the purpose of ready identification as independent items or as parts of a pattern or sequence. The record is then divided into larger functional groupings so that convenient comparisons of behavior can be made in the different phases of the observation period, for example, the initial phase (when the baby arrives), the feeding phase, etc. In that manner we can concentrate on one particular aspect of a feeding period which is a sufficient task in itself before considering it in relation to other phases and finally to the observation period taken as a whole.

Within every phase the details of the behavior of mother and baby are studied as attributes in themselves, as patterns of behavior, as patterns modified by situations, and as patterns modified by the individual. Thus in a painful breast feeding we must learn all that the data can tell us about the manifestations of pain, their characteristic patterns and combinations with other forms of behavior, and the special conditions including always the activity of the baby that bring them about. In this process the reader will no doubt be struck by the significance of numerous minutiae of behavior ordinarily neglected.

Following the study of components and patterns of pain, and the

manner in which they vary under different conditions (situations) we are then ready to learn how they are influenced by the individual. That is when the special study of an attitude, in this case the maternal attitude begins. For at this point we have completed the study of all those influences the data reveal that can explain the variations of maternal behavior by factors other than that of a feeling for the baby. Such factors though numerous represent in the main adaptation to the baby's sucking behavior. When the influences can be ascribed primarily to the individual, the specific attitude to be identified must be differentiated from other attitudes. Consider, for example, such behavior as persistency in activating the baby's sucking (an activity that can readily be measured). It may be shown by the manner of its performance to be uninfluenced by maternal feeling. It may be based on a general attitude towards all tasks, on the attainment of efficiency in the job of feeding a baby as in any other undertaking.

This is the kind of discrimination that is attempted in the analysis of behavior patterns, the differentiation of attitudes within the same behavior and the modification of one attitude by another.

### SECTION III

The preliminary test for maternal attitude in any one of the behaviors under scrutiny was the test of our best clinical measures. Within our group that meant the behavior of the most and the least maternal. If, in regard to the presence or absence of a greeting, for example, we found nothing to discriminate the one from the other we assumed that the greeting as such is not differentiating for attitude, for if it were it would most likely be revealed by the behavior of those whose maternal attitudes were in sharpest contrast. After testing for differences in the behavior of our "criteria" cases we continued with the others. The further comparisons act as a check on our first findings, since we would not assume a differential for attitude in the behavior of those mothers whose attitudes presumably offer less contrast than the most and the least maternal.

The finding of very high and very low maternal women in our group furnished a strong incentive to this investigation. The validity of their selection as criteria cases is considered in the chapter that follows. At this point we need only refer to them as our surest clinical measures, as our best criteria for the differentiation of attitude in maternal behavior. . . ~~fact~~ that the behavior of the

others was always somewhere in between in the numerous situations that revealed a measure of attitude was reassuring.

The proof then that a given behavior contained (was influenced by) a special kind of feeling started with the finding that (1) it occurred only among mothers known to have that feeling in a high degree, or (2) much of it occurred among such mothers, and little or none of it occurred among mothers known to have that feeling in a low degree.

The proof that an attitude is present in a behavior is based on individual differences in the behavior. We may say that there is some of it in this behavior and some of it in that behavior. As we go on we are able to recognize the kinds of behavior that allow us to make differentiations which yield attitudes, and also varying degrees of attitudes. In the end when we say that a behavior contains an attitude we mean that it contains it by the method of comparison employed. It does not enable us to say that when one does not find it in a behavior that it is not there. It may be there and elude our method of investigation.

The process of differentiating behavior for the discovery of attitudes by means of clinical measures was constantly surveyed in order finally to dispense with their use and rely on direct observations alone.

Once we have extracted a pattern of behavior from its connecting links with the complex and ongoing behavior of the individual we can treat it as an independent datum, as a bit of relational behavior with a special kind of feeling in it. Instead of seeing a behavior bound up inextricably with a person, we now see it as a pattern in its own right, with its own special characteristics. Within a given situation variations in the patterns can be discerned as a measure of the feeling that they contain. The function of the feeling-component in the behavior can now be perceived more clearly and accurately.

The application of the method to other forms of relational behavior is considered in a later chapter. It is hoped at least by refining the method of observation more pertinent data for the study of maternal behavior will accrue and more generally that our study will aid in understanding the problems involved in the derivation of attitudes from behavior manifested in any social relationship.

## APPENDIX

Illustration of (1) a narrative record of observations, (2) a unit record, (3) how four judges scored it for maternal attitude, (4) a maternal "interests" interview, and (5) details of schedules and observations.

*(Medical history — Date of delivery, March 9, 1943. Menstruation: began 11 years, type 22 plus, duration 3-4 days. Measurements: interspinous 21½ cm., intercrestal 24 cm. oblique 20½ cm. Complications during pregnancy: complained in Jan. that baby's movements were weak. Delivery: spontaneous and normal of living girl, placenta expelled complete, ergotartrate 1 cc., bleeding normal, uterus well contracted. Presentation: vertex, position L.O.A. Level of presenting part: perineum. First pregnancy.)*

FIRST OBSERVATION (MARCH 10, 12:30 P.M.). Mother laughed at face (screwed up) baby made when it was brought. Mother on left side, baby on its right. Mother supported herself on left hand; right hand manipulated breast. Nurse helped her start nursing since this was second time she had done it. Baby awake. Mother had trouble getting nipple in baby's mouth; when baby got it, she began sucking, strong and slow. Mother said it hurt her. Mother was tense and kept her body raised and rigid. Baby lost nipple because of mother's position. Baby cried. Nurse made mother lie down and reminded her several times to relax. Mother put right arm straight out, left around baby, looked at her, then at nurse. Baby still awake and sucking, with eyes open. Baby shook head from side to side and hunted for nipple when she lost it. Mother, "She's looking for it." Mother put nipple in baby's mouth; baby lost it again, cried. Mother became tense again, and nurse told her to relax. Baby waved free hand, nurse held it down. Mother asked nurse why the baby was so covered up; she wanted to see it. Nurse showed mother how to hold breast, then left. Mother held breast with left hand, patted baby's head, ear, and cheek with right hand. Mother watched observer, then looked at baby. Baby stopped sucking, eyes were still open. Mother patted baby's cheek. Baby started again. Baby didn't sleep, but had to be reminded to suck from time to time. Mother lay looking at baby, right hand on baby's back; baby's eyes closed, then opened again. Mother tucked right hand under baby's chin. Baby's sucking became weaker, eyes closed. This was 17 minutes after nursing began. Baby continued to suck at intervals, not very strong. Mother looked at her, lay quietly throughout

the remainder of the half hour Baby still sucking when nurse took her away Baby was very sleepy, but did not cry when removed from breast.

SECOND OBSERVATION (MARCH 11, 5 30 P M ). Baby was just waking up when brought, whimpered Mother very excited to see her Mother laughed, squealed Nurse helped her to start baby at breast Baby had to be coaxed to take nipple in her mouth Baby's eyes were open Took nipple when nurse held her head Sucked very fast and strong Rested about every 20 25 sucks Baby's free hand was bent at elbow, held against her own body, hand on chest Baby's hand moved, but not the arm Observer couldn't see movements of baby's hand clearly, since all the babies wear gowns that are stitched up across the hands Mother lying on right side, right arm around baby's back lightly, left hand on her own breast Mother kept moving her right hand to touch baby's face, or urge her on by patting her back and cheek Baby's free hand moved up and down Movement was constricted since baby was lying very close to mother and her hand was stopped by mother's body Mother coaxed her constantly, even when baby was sucking, she would pat her face and say, 'come on' Mother said she was scared baby wasn't getting any food Baby's free hand moved all through nursing, as much as possible Eyes were closed After 6 minutes, sucking became slower, rests longer Sucking remained very strong, however After 15 minutes baby became very sleepy, needed a lot of coaxing to start sucking again Behavior was the same Baby almost asleep, mother patting her to wake her up and resume sucking, which baby did Mother looked at baby, smiled, didn't talk to her, but cuddled her Nurse came after 25 minutes and took baby away Baby went to sleep, didn't cry

THIRD OBSERVATION (MARCH 15, 9 45 A M ) Mother already had baby when observer came in This was the last time she was going to nurse as she had too much milk, and her nipples were very sore The baby was to be put on a bottle the next feeding Mother lying on left side, left hand around baby, right hand on her own breast Baby had eyes open, was sucking strongly and moderately fast Rested every 20 30 sucks but resumed sucking almost immediately without any coaxing by the mother Mother groaned, "Oh, she's starting to bite again" Mother took breast out of baby's mouth (5 minutes after observer had come) Baby lay quietly, did not cry, eyes open, mouth searched for nipple Mother patted her Baby

whimpered. Mother gave her the breast again, said, "it hurts, but I don't like to hear her cry." Baby took breast, sucked strongly. Eyes still open. After 10 minutes baby stopped sucking; mother removed breast from its mouth, covered it with nightgown. Baby lay completely still, eyes open, didn't cry. Baby sneezed. Mother, "Why is it that every time I nurse her she sneezes. It never fails. I guess she's had enough, she isn't crying. If I feed her too much she spits up." Mother uncovered breast and tried to give it to baby. Baby spit up a little. Mother, "See that. That aggravates me. I give her and give her and all she does is spit it up." Mother let baby lie there. Mother petted and cuddled her, made kissing sounds with mouth. Baby's eyes still open, no crying. Lay like that till nurse came (20 minutes). Mother, "Well, goodbye. I hope you like your bottle better and don't spit it up." Mother said she was glad the baby was going on formula as her nipples were very sore and the baby never drank all her milk.

A unit record and score sheet for Case 8 follow. The behavior items in the unit record were derived from the original record of observations presented in the preceding section. The score sheet shows how each scorer rated each item of behavior.

In Case 8, there were 120 scores. Eighteen of these were  $++$  (5); 75 were  $+$  (4); 23 were 0 (3); 2 were  $=$  (2); 2 were  $-$  (1). The median score in Case 8 was 4.47.

The time in which the observation period began and ended was noted. The March 10th record was timed 0 minutes in the third column at the end of the first time, and 30 minutes at the end of the last item. The end of the observation period was not precise. It did not coincide with the moment the nurse took the baby, but some time after to include mother's response to the departure. Thirty minutes means 30 minutes plus 0, 1, or 2 minutes. Intervening time notations are self-explanatory.

The score sheet will reveal how each scorer regarded the behavior units; and it will be noted that the fourth scorer, in this case as in the others, was at odds with the first 3, in that he used the score 0 (the noncommittal score) more frequently. It will be noted that scorers 1 and 3 are in almost perfect agreement in the scoring of the 30 items, and also that the most frequent signs (in this case more than in most others) are  $+$ .

# BEHAVIORAL ANALYSIS

Score Sheet  
Scorers

<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>	1	2	3	4
<b>March 10 — UNIT RECORD I</b>						
1 Nurse brought baby, baby screwed up face	Mother laughed	0 min	+	+	+	+
2 Baby awake	Mother tried to insert nipple in baby's mouth Had trouble getting it in, but finally did		+	+	+	0
3 Baby began sucking, slow and strong	Mother said it hurt her		+	0	+	0
4 Baby lost nipple and cried	Nurse made mother lie down, and told her to relax Mother looked at baby then at nurse Put left arm around baby		+	+	+	+
5 Baby got nipple again, sucked, eyes open	No response		+	0	+	0
6 Baby lost nipple, shook head from side to side Hunted for nipple	Mother said, "She's looking for it" Put nipple in baby's mouth		+	+	+	+
7 Baby lost nipple again, cried Waved free hand till nurse held it down	Mother asked nurse why baby was so covered up Said she wanted to see her Nurse helped mother Nurse helped mother reinsert nipple in baby's mouth, left		+	+	+	+
8 Baby sucked	Mother patted baby's head, ear, and cheek		+	++	+	++
9 Baby stopped sucking, but retained nipple, eyes open	Mother patted baby's cheek		+	++	++	++
10 Baby sucked again Didn't sleep, but had to be reminded to suck from time to time	Mother looked at her, patted cheek to urge her to suck		++	+	+	+
11 Baby closed and opened eyes	Mother tucked right hand under baby's chin	17 min	++	+	++	+
12 Baby's sucking became weaker, eyes closed			+	+	+	+
13 Sucked at intervals			+	+	+	0
14 Baby still sucking when nurse took her Didn't cry when taken from breast.	No response	30 min	+	+	+	0



<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>	<i>Score Sheet</i>			
			<i>Scorers</i>			
			<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>March 11 — UNIT RECORD II</i>						
15 Baby was just waking up when nurse brought her, whimpered	Mother very excited to see baby Laughed, squealed Nurse helped her to start	0 min	++	++	++	++
16 Baby wouldn't take nipple	Nurse held baby's head		+	+	+	+
17 Baby took nipple, sucked fast and strong Rested every 20—25 sucks	Mother put right arm around baby's back lightly Kept moving right hand to touch baby's face and urge her on by patting back and cheek		++	++	++	++
18 Baby moved free hand up and down, though movement was hindered by mother's body Free hand waved throughout nursing	Mother coaxed her constantly, even when baby was sucking she would pat her face and say, "Come on" Said she was scared that the baby wasn't getting enough to eat		++	+	++	+
19 Baby closed eyes sucking became slower, rests longer	Mother patted back and cheek to urge her on	6 min	+	+	+	+
20 Baby became very sleepy Had to be coaxed a great deal to resume sucking, but always did	Mother patted cheek to wake baby whenever she stopped sucking Didn't talk to her, smiled cuddled her	15 min	+	+	+	+
21 Nurse took baby away from breast Baby went to sleep	No responses	25 min	0	0	0	0
<i>March 16 — UNIT RECORD III</i>						
22 Baby at breast, sucking strong and quite fast, eyes open Rested every 20—30 sucks, but needed no coaxing to start again	Mother had left arm around baby		+	+	+	+
23 Baby sucking	Mother groaned, said, "Oh, she's starting to bite again" Took breast out of baby's mouth	5 min	—	0	—	0
24. Baby lay quietly, eyes open Didn't cry, mouth searched for nipple	Mother patted her		+	+	+	+

<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>	<i>Score Sheet</i>			
			<i>Scorers</i>			
			1	2	3	4
25 Baby whimpered	Mother gave breast back to baby		+	+	+	+
26 Baby took nipple, sucked strongly, eyes still open	Mother, "It hurts, but I don't like to hear her cry"		0	+	0	+
27 Baby stopped sucking	Mother removed breast, covered it with night-gown	10 min	-	0	-	0
28 Baby lay completely still, eyes open, didn't cry Sneezed	Mother, "Why is it that every time I nurse her she sneezes It never fails I guess she's had enough, she isn't crying If I feed her too much she spits up" Uncovered breast and tried to give it to baby		0	+	0	+
29 Baby spit up	Mother, "See that That aggravates me I give her and give her and all she does is to spit it up" Let baby lie beside her Patted and cuddled her, made kissing sounds with mouth		+	+	+	+
30 Baby lay still, eyes open Didn't cry Remained thus till nurse took her.	Mother, "Well, goodbye I hope you like your bottle better and don't spit it up"	20 min	0	0	0	0

### Observer, Hospital and Observation Schedules

In all of the hospitals included in this study, babies were brought to the mothers for visits or feedings, and then taken back to the nursery after varying intervals of time, usually about 20 to 30 minutes. While mother and baby were together, the observer stood near the foot of the bed. She did not encourage any conversation during the period of observation, speaking to the mother only when spoken to. The mothers apparently accepted the observer's note-taking very well. Often, in fact, they carried on conversations with other patients as though the observer were not present. (Since it was not feasible to have several observers at the same bed, the advantage of comparing different records of the same behavior — and also of determining the complicating factors resulting from group observation — was not at hand.)

For our purposes, an observation period was not determined on the basis of a set number of minutes, but started when the nurse brought the baby to the mother and ended when she took the baby away. We felt that the observation of the mother's responses to each aspect of the experience — the baby's coming and departing as well as the intervening behavior — offered an advantage over limiting observations to a set period of time. Though a set number of minutes for each observation period would have had the advantage of uniformity, it would have entailed the risk of lopping off observations of value in revealing the mother's attitudes, especially in the end phase.

After permission to make the study was obtained from the obstetricians and hospital directors, and preliminary arrangements completed, each mother was told by the observer that she was collecting material for a psychiatrist and would like the privilege of watching and taking notes during the nursing period. None of the mothers refused.

Although hospital officials granted permission to make the study, they were loath to grant the privilege of observing private patients. Of the 19 mothers, all except 3 were ward patients. (Of the 19 mothers, 16 were observed in the wards of the following hospitals: 7 in Beth Israel; 3 in Harlem; and 6 in Misericordia. The 3 mothers who were observed in private rooms were in the following hospitals: 2 in Lenox Hill; 1 in Beth Israel.) The group contained white and Negro patients; Catholics, Protestants, and Jews; and a large variety of nationalities. A heterogeneous group was preferred in order to determine among the diversity of cultural factors the common or basic behavioral representation of attitude.

It was planned to make 3 visits per case for observation and to include the interview about general maternal behavior after the second or third visit. Visits were to be made on the first day after the day of the baby's birth, on the third or fourth day, and on the seventh or eighth day. Because of practical considerations, the original plans regarding observation periods had to be modified in certain respects. Five of the nineteen mothers had only 2 observation periods rather than 3. The time of the first observation also varied: the first observation was made on the day of birth in 1 case; on the planned day, the day after birth, in 9; 2 days after birth in 7; and 3 days after birth in 2. Of the total of 52 observation periods: 19 were 30 minutes or longer; 9 were 25 to 29 minutes; 8 were 20

<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>	<i>Score Sheet</i>			
			<i>Scorers</i>			
			<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
25 Baby whimpered	Mother gave breast back to baby		+	+	+	+
26 Baby took nipple, sucked strongly, eyes still open	Mother, "It hurts, but I don't like to hear her cry"		0	+	0	+
27. Baby stopped sucking	Mother removed breast, covered it with night-gown	10 min	-	0	-	0
28 Baby lay completely still, eyes open, didn't cry Sneezed	Mother, "Why is it that every time I nurse her she sneezes It never fails I guess she's had enough, she isn't crying. If I feed her too much she spits up" Uncovered breast and tried to give it to baby		0	+	0	+
29 Baby spit up	Mother, "See that That aggravates me I give her and give her and all she does is to spit it up" Let baby lie beside her Patted and cuddled her, made kissing sounds with mouth		+	+	+	+
30 Baby lay still, eyes open Didn't cry Remained thus till nurse took her.	Mother, "Well, goodbye I hope you like your bottle better and don't spit it up"	20 min	0	0	0	0

### Observer, Hospital and Observation Schedules

In all of the hospitals included in this study, babies were brought to the mothers for visits or feedings, and then taken back to the nursery after varying intervals of time, usually about 20 to 30 minutes. While mother and baby were together, the observer stood near the foot of the bed. She did not encourage any conversation during the period of observation, speaking to the mother only when spoken to. The mothers apparently accepted the observer's note-taking very well. Often, in fact, they carried on conversations with other patients as though the observer were not present. (Since it was not feasible to have several observers at the same bed, the advantage of comparing different records of the same behavior — and also of determining the complicating factors resulting from group observation — was not at hand.)

Questions	Replies	Scores
4. When you thought about being a mother some day, how many children did you intend to have? How many boys? Girls? Or didn't the sex matter?	Two children. The sex didn't matter.	2
5. Whenever you see a pretty baby [Whenever you saw a pretty baby, before marriage, did you . . .] do you feel you would like "to eat it up?" does it fill you with a longing for one of your own? do you feel like taking it in your arms? do you feel interested, but none of the above? you are not interested? you think all babies are a nuisance?	Feels like "eating it up" and taking it in her arms.	5
6. When you are married you hope to have [After you were married, you hoped to have . . .] no children one child two children three children four children five children six children more than six children	Two	2
7. After marriage how many years would you prefer waiting before having your first child? [After marriage you hoped to wait how many years before . . .]	Two years.	4
8. If you had a child, would you prefer to give it the breast? [If you could satisfy your own wishes about breast feeding, you would have preferred to give it the breast . . .] not at all one month 2-5 months 6-12 months	One month	2
9. As to your first child, would you prefer [if you could have had it your own way, you would have preferred . . .] to take care of it yourself to have a nurse the first half-year and then take care of it yourself to have a full-time nurse or governess throughout its infancy	To take care of it herself.	5
10. How would you rate your maternal feeling toward children? 1. very maternal 2. above average 3. average 4. less than average 5. nonmaternal	Above average	4

to 24 minutes; 5 were 15 to 19 minutes; 6 were 10 to 14 minutes; 5 were less than 10 minutes. The last two groups were all non-feeding periods.

The interview based on the maternal questionnaire was in most cases given after the third observation period, but in a few cases after the second period. Those given after the second period, judging by comparisons of unit records, had little if any effect on maternal response. The original plan of interviewing only after the 3 observation periods had to give way to the practical considerations of hospital time schedules, and especially to the risk of losing contact with mothers when interview appointments piled up on the eighth or last day of the mother's stay.

The questionnaire which was used to guide the interview was previously tried out on about 450 women, all unmarried college undergraduates. The questions were derived originally from studies, in clinics and private practice, of mothers who referred their children because of "behavior problems."

The record of the interview for Case 8 follows. It was based on questionnaires standardized for college undergraduates. The rewording of certain questions, which was necessary when they were asked of the mothers, is indicated in brackets at the appropriate places.\*

#### INTERVIEW ON MATERNAL BEHAVIOR

Questions	Replies	Scores
1. How old were you when you stopped playing with dolls?	Ten to twelve years.	5
2. Of the following games you played with dolls or with other children, number in the order of your preference: Hospital, doctor School, teacher House (other than mother) Mother and baby Shopping Nurse Prince and princess Others	1. School and teacher. 2. Mother and baby. 3. Nurse.	5
3. As a child were you a neighborhood mother? Did you voluntarily take care of younger brothers and sisters? Elaborate.	Yes, little sister. Enjoyed it.	5

\*David M. Levy, Psychosomatic studies of some aspects of maternal behavior, *Psychosomatic Med.*, 4 223-227, 1942.

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The matching of mothers against the numerous bits of presumably comparable behaviors on the basis of their "interview" scores, carries with it, in a sense, a self-checking device. This appears in the consistency of differences in the numerous comparisons that are made. This consistency was complete when the most and the least maternal were compared and when the high ranking mothers are compared with some others. The same held true for the 2 lowest ranks. Thus, in every situation in which a deviation of behavior is positive or negative, and whenever the positive or negative behavior can be further divided into more positive and more negative, then the rule of consistency would require that the most and the least maternal mothers would always be consistent in regard to the sign and the measure of deviation.



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## CHAPTER 1

# INITIAL PHASE: THE GREETING

## SECTION I

**T**HE first part of the visit, from the baby's entry until the feeding is started, constitutes the initial phase. It begins when the mother sees nurse and baby coming. It continues when the baby is put alongside her on the bed or is in her arms preparatory to feeding. It ends when the baby is put to the breast. It is the introductory phase of the ongoing behavior that ends when the baby is taken away.

Some mothers greet the baby. Others do not. The greeting may be a smile or a simple "hello." It may be effusive — smiling, regarding, laughing, cooing, kissing sounds, patting, stroking, and endearing talk. The same mother may greet the baby on one occasion and, on another, take the baby from the nurse without a word or smile and put it immediately to the breast.

This chapter is concerned with the meaning of the initial responses described. After learning what we can from the agreement and disagreement among the workers who first scored them in terms of their intrinsic values and patterns, other sources of information derived from interviews will then be utilized for the purpose of evaluating the inferred feelings of affection which determine the maternal attitude. In other words, we shall try to find out what the reading of the record of responses meant to the scorers, how much we can learn from the observations alone, and finally, what we can add to our knowledge from other available data.

Preliminary to analysis of the behavior, a review was made of the manner in which four people, working independently, judged the particular items of behavior with which we are concerned. Their judgments were recorded in the form of symbols for plus, double plus, minus, double minus and zero, after each "unit" observation in the records: accordingly, + + and + represented in the judge's mind degrees of maternal "acceptance" of the baby; — — and —,

the words, "God knows, he's enough trouble already. No, I can wait to see him this evening and anyway I'll see plenty of him and the others. Don't bother."

In the other instances, both mothers paid no attention to the baby. They addressed their remarks to the nurse alone and said they would not breastfeed.

Disagreements among the scorers occurred most frequently when no greeting or affectionate response was manifest. In 9 instances of "no response," 3 of the 4 scorers scored plus, the other, zero. In a few cases absence of response was scored minus.

In general the scores were in close agreement where greeting or display of affection, as it is usually interpreted, was present. There was likewise agreement in scoring when the mother refused to breastfeed or to visit with the baby when she had an opportunity to do so. Maternal response revealed during the act of taking the baby from the nurse was apparently more difficult to score. This difficulty was revealed in disagreement among scorers and in the inconsistencies of the individual scorer. The "no response" notation was scored minus, and on a few occasions, plus. Although correlations of the scores were significantly positive, this type of discrepancy in scoring was found in every phase of the mother-infant relationship.

The primary difficulty in the whole problem of scoring was that of evaluating "ordinary" maternal behavior. Is the mere act of feeding the baby proof of maternal affection? Scorers judged maternal behavior as though they had in mind a line, above or below which there was no difficulty in determining something positive or negative. The line itself, which represented the assumed ordinary sustaining activities in the care of an infant, was itself not defined.

## SECTION II

Before attempting further differentiation of the kinds of behavior our scorers had in mind, let us consider the behavior itself, or more precisely, the recorded data of the behavior. The simplest and perhaps most useful comparison is that of the initial phase already described, and the end phase: i.e., the maternal response shown upon the arrival and departure of the baby. The end phase includes that part of the period when the nurse returns to take the baby and leaves with it. The maternal response to the baby in the end



degrees of "non-acceptance"; and O, a doubt, or a belief that the notation was in neither category. The uniformity of their judgments gave rise to the inference that psychologists and psychiatrists, generally, after reading and scoring these same records, would be in accord.

It seems reasonable to assume that almost anyone would score as "plus" initial responses so typically associated with our ideas of affection as cooing and kissing and embracing. It seems reasonable to assume also that the more cautious scorers would be more likely to use zero, the non-committal score, in those instances in which the usual maternal functions like feeding and burping were described, without additional notations.

All 4 scorers marked the following responses in the initial phase as double plus.

Baby was brought. Mother smiled, took baby from nurse, embraced it, talked, cooed, said, "How are you?", whispered to it, etc.

Baby was brought. Mother was very excited. She laughed and squealed.

All marked the following responses as plus:

Baby brought. Mother cooed.

Baby brought. Mother reached out, smiled, whispered "Hello."

Baby brought. Mother said, "Hey cutie. Where were you?"

C'mon, cutie, open those eyes."

In the 21 instances of full agreements on plus and double plus scores, all but one contained evidence of at least a single response — smiling, talking, laughing, or cooing, besides merely taking the baby. A smile, or any word of greeting, was sufficient to elicit a plus score.

All four agreed in scoring the following responses as zero (doubtful, or neither "accepting" or "non-accepting.")

Baby brought, crying. Mother, "What's he doing, crying again? That's not nice. What's the matter?"

Baby brought. Mother said she couldn't nurse because she had a cold.

Baby brought. No response from mother.

Of the 6 instances in which all agreed in scoring a zero, there was "no response" in 4. In the remaining 2, the remarks made were addressed to the nurse.

There were three instances of full agreement on minus scores.

In one, a double minus, the mother, unable to breast feed at the time, turned down the nurse's offer to bring her baby to her, with

crying, she's usually asleep," and then proceeded as described above.

Besides the previous consideration, the sleeping baby presents the special problem of having to be awakened in order to be fed. Of the 3 conditions described, the sleeping baby would be most likely to arouse the anticipation of a difficult feeding. (See chapter on the feeding phase.)

The considerations in regard to greeting the baby are introductory to the data presented in Table I and Table II. They developed during the examination of absence of response as a reliable indication of lack of affection. Since the phases preceding and following the feeding phase were thought to offer the most favorable opportunities for affective response, or at least for their observation, since they were unencumbered by the feeding process, a comparison of the two was made.

The finding that 5 of the 7 mothers who gave "no response" in the initial phase gave 1 or more in the end phase reduced the differential value of the absence of initial response. The same 5 mothers were similar to the remainder of the group in the number and quality of end responses, and also in feeding phase response. The explanation that they were mothers who differed from the others in requiring at each period a warming up process could not be maintained, when a study was made of mothers who gave one or more initial responses in one observation period and none in another. Recourse was had to a comparison of the most obviously high and low maternal women of the group. When several "no response" notations occurred in the initial phases of one of the lowest, and consistent "no response" notations occurred in one of the highest, the value of initial phase responses as an indication of maternal affection was seriously questioned. Finally by means of ratings on a scale derived from interviews, a comparison was made of the groups of mothers with and without initial response. When no significant difference between the 2 groups appeared, it was concluded that initial phase responses in terms of "presence" or "absence" had no differential value as indications of maternal affection.

### SECTION III

The search for other clues resulted in the finding that the condition of the baby, as seen by the mother, appeared to be a most

phase contains a variety of behavior similar to that in the initial phase.

Of the 19 mothers in the group 7 consistently gave no response in the initial phase. Of these, 5 responded in the end phase. The 2 remaining gave no response in either phase. The same 2, in fact, were the only members of the entire group who gave "no response" in the end phases. When the nurse returned and took the baby away, they paid no attention to it. These 7 mothers referred to were consistent in manifesting no initial response in every period of observation. Of the remainder, there were 7 others who gave no initial response in at least one of the observation periods. Of the 19 mothers, 5 gave a response in every initial phase.

The observed inconsistency of response in the same mother seemed to indicate that greeting the baby was influenced by other conditions, besides maternal affection. One of these conditions was thought to be a cultural factor. The habit of greeting any visitor (and the baby may be so considered) is a response that may be used to ease into a social situation. There are also cultural influences which may determine the manner of greeting when the visitor is a baby. The baby to be greeted should preferably be awake, since it then can fulfill the illusion of responding. At least, it can react to a response. The baby who comes sleeping or crying is thus less likely to be greeted. Some mothers as a result also of cultural influences presumably may regard the baby simply as something to be fed or to be taken care of. Some mothers may not have been versed in the usual conventions of hello's and goodbye's, a point that might well apply in our heterogeneous sampling. Nevertheless, only two mothers gave no response to the baby in all initial and end phases, and in their case, the reason, as will be shown later was due rather to lack of affection, than lack of sophistication.

Another condition is related to "basic" maternal attitude. The baby who is brought crying, comes with an urgent signal to be fed. The typical response, an immediate adaptation of baby to breast usually offsets a greeting. Even so, a mother may insist on some introductory relationship. In Case 7, the mother held her crying baby in front of her, looked at her awhile and said, before putting her to the breast, "First she's got to look at me a little." The same mother complained that she had previously had little opportunity for an introductory period, when she said, "I'm glad she's

In Table I the words used to describe the baby's behavior are crying, asleep, and awake. In 8 instances other words are used: whimpering (a variety of crying); and words denoting waking up or going to sleep, states in which the eyes do not remain closed.

When we consider only the notations crying, asleep, and awake, we have 43 in all. The maternal responses in the three different situations follow.

TABLE II

## INITIAL PHASE: ACTIVITY OF BABY AND MATERNAL RESPONSE

<i>Activity of Baby</i>	<i>Frequency</i>	<i>Maternal Response</i>	
		+	—
Crying	9	4	5
Awake	12	9	3
Asleep	23	7	16

If we simplify the notation in Table I making whimpering = crying and partially awake = awake (since moving eyelids are presumably more conducive to a maternal response than closed ones), we have the distribution described in Table IIa.

TABLE IIa

## INITIAL PHASE: ACTIVITY OF BABY AND MATERNAL RESPONSE

<i>Activity of Baby</i>	<i>Frequency</i>	<i>Maternal Response</i>	
		+	—
Crying and whimpering	13	5	8
Awake and wakening, etc.	15	12	4
Asleep	23	7	16

It appears from our findings that the condition of the baby, as described, influences maternal response, increasing the occurrence of responses in the quiet waking state, and decreasing it in the sleeping or crying state.

The condition of the baby in relation to maternal response was studied and completed before feeding visits and non-feeding visits were considered separately. Since the findings can be explained as a result of the mother's anticipation of the urgency of the baby's need to be fed (the cry), or the difficulty in getting it to feed (sleep), it would appear that the baby's condition has more influence on initial response in a feeding visit than in a non-feeding

plausible explanation of the presence or absence of initial phase response

TABLE I

INITIAL PHASE ACTIVITY OF BABY AND MATERNAL RESPONSE\*

Case No	Observation Periods					
	I	II		III		
7	crying	+	whimpering	—	crying	+
8	awake	+	whimpering	+	(not observed)	
9	crying	—	asleep	—	asleep	—
10	asleep	—	asleep	—	asleep	—
11	asleep	+	crying	+	awake	+
12	asleep	—	half awake	+	asleep	—
13	awake	—	awake	+	awake	+
14	crying	—	crying	—	crying	—
15	awake	+	asleep	—		
16	whimpering	+	asleep	+	awake	+
17	awake	—	asleep	—	awake	—
18	awake	+	awake	+		
19	asleep	+	eyes open and close	+	crying	+
20	asleep	—	asleep	—	asleep	—
21	asleep	+	awake	+	wakening	+
22	asleep	+	asleep	—		
23	asleep	—	asleep	—		
24	asleep	+	whimpering	—		
25	asleep	—	crying	—	asleep	—

\*+ and — represent presence and absence of maternal response Awake means awake without crying

A glance at Table I will reveal that in 6 of the 7 cases in which initial response was consistently lacking the baby was brought in sleeping or crying. The exception was a mother (Case 17) who made no response on the 2 occasions when the baby was awake.

In 5 cases responses were present in all the observation periods. In all but 1 the baby was awake in at least 1 of the periods. The exception was a partial one, since the baby's eyes opened and closed (Case 19).

pation of the feeding determines the presence or absence of response. The cry would indicate an urgency that calls for immediate application of the breast. Judging by the table, sleep would act more strongly as an inhibition to initial response. The sleeping infant presents an immediate problem to the mother, one more difficult than the crying one. It has to be awakened before it can be fed, and later on, it must be kept awake. Besides, the typical reaction to the sleeping baby of letting it sleep must be overcome. The crying infant is usually hungry and feeds at once. The anticipation of the difficulty that comes with the sleeping child may explain the difference in the initial response which occurred once in about 3 times for the crying infant, and once in about 6 times for the sleeping one. The baby, quiet and awake, presents no problem of urgency or special difficulty and gives the mother an opportunity for some preliminary greeting before beginning the serious business of feeding. Even then, judging by the difference in the non-feeding cases, some urgency is left. Her responses are shorter and fewer.

When the baby is brought exclusively for a visit, it makes little difference if he comes quiet and awake, asleep or crying. He is then very likely to get a greeting — and, to borrow from a later section, a greeting that contains a larger variety and number of responses.\*

#### SECTION IV

So far we have been limited to observations of the presence or absence of initial response to the baby without considering the character and the number of responses that were made. Now let us consider the kinds of responses made in the initial phase, and how frequently each kind was manifested by the mothers who responded.

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\*In enumerating the non-feeding visits, 5 were subtracted from the others because the baby was kept in the nurse's arms throughout. They were originally included with the others in spite of this fact, because it was thought that the mere arrival and departure of the baby might yield valid initial and end phase responses, even though the baby was not put down next to the mother. When included in other tables, they are treated also as a separate group.

visit. Non-feeding observation periods were included with the others because they offered the opportunity of observing mother-infant relationships uncomplicated by the feeding process, and because some of them included mothers who refused to breast feed. Of the non-feeding visits 2 were first visits occurring within a few hours of birth and preliminary to the first feeding visit. This is a usual hospital practice (Cases 11 and 15). Seven were non-feeding periods of 3 mothers who refused to feed by breast. Four were very brief periods in which the nurse held the baby in her arms and left immediately when she learned that the mother had a cold.

Of the 7 mothers who had non-feeding visits, 3 (Cases 17, 19, 22) had non-feeding visits exclusively. In all the 51 observation periods where initial responses were observed, the feeding was absent in 14 and present in 37. If we exclude non-feeding visits in which the baby was not placed on the bed or in the mother's arms, 5 observation periods are eliminated (Cases 13, I; 17, I, II, III; 21, III), leaving 9 such periods for consideration. One or more initial phase responses occurred in all but 1. In the 9 non-feeding visits the baby was asleep on arrival on 5 occasions, awake on 3, and crying on 1. Initial phase response was missing in the period in which the baby was asleep.

The 37 feeding visits now separated from the others were compared for activity of the baby and maternal response in the table that follows.

TABLE IIb

INITIAL PHASE, FEEDING VISITS: ACTIVITY OF BABY AND MATERNAL RESPONSE

<i>Activity of Baby</i>	<i>Frequency</i>	<i>Maternal Response</i>	
		+	—
Crying and whimpering	11	4	7
Awake and wakening, etc.	8	8	0
Asleep	17	3	14

The above findings require a change in our previous conclusion that the condition of the baby, as described, influences maternal response. It is clear that the phrase "when the baby is brought for a feeding" must be added.

The contrast in response to differing conditions is a sharper one and lends confirmation to the explanation that the mother's antici-

TABLE IV

INITIAL PHASE: VARIETY AND SEQUENCE OF MATERNAL  
RESPONSE TO THE BABY IN EACH OBSERVATION PERIOD\*

<i>Case No.</i>	<i>I</i>	<i>II</i>	<i>III</i>
7	smiling	—	holding
8	laughing	laughing	
9	—	—	—
10	—	—	—
11	smiling cooing regarding	cooing	smiling greeting
12	smiling	smiling cuddling cooing laughing	—
13	—	smiling	smiling
14	—	—	—
15	smiling greeting patting	—	
16	smiling	greeting	greeting
17	—	—	
18	smiling stroking regarding	regarding	
19	smiling cuddling talking regarding touching	laughing holding smiling chucking	talking holding laughing
20	—	—	—
21	laughing	greeting	smiling patting
22	greeting talking	—	
23	—	—	
24	talking	—	
25	—	—	—

\* — indicates no manifest response.



TABLE III

VARIETY OF RESPONSE IN THE INITIAL PHASE      FREQUENCY OF EACH TYPE  
OF RESPONSE PER MOTHER

<i>Type of Response</i>	<i>Frequency*</i>
Smiling	9
Greeting	5
Laughing	4
Talking	3
Cooing	2
Regarding	4
Holding	2
Cuddling	2
Stroking	1
Patting	2
Touching	1

\*The number 9 for example indicated that 9 mothers responded by smiling, once or more often, in the initial phase

This table is a record of the number of types of responses made by each mother. In Case 11, for example, there were 3 initial phases. Smiling occurred in the first and third. Cooing occurred in the first and second. Each was counted once. "Regarding" occurred only in the first initial phase, greeting, only in the third. There were 6 initial phase responses in all, making 4 different types of response. Only the latter were included in Table III.

Of the varieties of response listed, the most frequent are well comprehended as communication through sounds and facial expression (23 of 35). Visual and tactile responses make up the rest.

In the initial phase, when 2 or more types of response occurred in sequence, sound and facial responses usually preceded the others. The large number of mothers who responded gave no more than 1 or 2 responses in any one initial phase. After a smile and a greeting or a bit of talk, they went on to feeding. Only 5 mothers gave more than 2 varieties of response in any 1 initial phase. Table IV includes the responses of each mother, during each observation period in the order in which they appeared.

Two or more responses occurred in 12 observation periods. The second response was vocal in 6, a holding type of response (holding and cuddling) in 4; a patting type of response (patting or stroking) in 2; and regarding in 1.

A composite pattern of the variety and sequence of the responses recorded would begin with a smile and a word of greeting, and gradually increase in the intimacy of vocal, visual, and bodily gesture. A smile and a greeting, vocalizations, then holding and regarding, finally patting or stroking, would complete the pattern. The sequence is not completed by most mothers because, presumably, the baby needs to be fed. The baby remains with the mother for a limited period of time and every effort is made to get as much milk into him as possible.

When feeding and non-feeding periods were compared, the patterns containing more than 2 types of response were found, with one exception, only in the non-feeding periods. The exception was Case 18, who held the top rank in maternal feelings according to the interview score.

Comparing the average number of types of response in the 2 groups, when 1 or more responses were given, the 8 non-feeding periods total 25, an average of over 3 per period. Only 1 of these non-feeding periods contains a single response. The 16 feeding periods in which one or more initial responses were given total 21, an average of a little over 1 per period. Twelve of the 16 periods contain a single response.

The contrast of the 2 groups confirms again the inference that the baby who is brought for a feeding reduces initial phase response, curtailing or even preventing it. The complete pattern of initial-phase response was not found in 1 case. The most nearly complete ones were found in 2 of the 4 mothers who refused to breast feed (Cases 12 and 19). Both were below the average of maternal feelings according to interview scores. Neither displayed patting or stroking responses. One of them (Case 19) had the largest repertoire of responses in the end phase.

The fact that the same mother who gave the largest number and variety of responses in both initial and end phases left out patting and stroking drew special attention to these gestures. The patting and stroking gestures were revealed by 3 mothers in the initial phase. One of them (Case 21,II) was in fact quite ill during the period in which this observation was made, and her baby was not

The word "regarding" was used to indicate attentive looking as a separate response, unlike looking that is part of the response of smiling, laughing, talking, or cooing. The mother who held up the baby before giving it the breast and said, "First she's got to look at me a little," is a good illustration. Other forms of visual response, to be differentiated from regarding, will be considered later.

The observation "holding" was recorded as an initial phase response when it was seen as distinct from a holding movement that is immediately followed by, and is a part of, breast feeding. The baby was first held and then regarded in Case 7; the baby was responded to by laughter, then held, then smiled at, then chucked under the chin in Case 19. Holding, as initial phase response, and as part of a feeding response, is easily differentiated. We may consider cuddling, embracing, and holding as forms of continuous body contact. The risk of error in missing the observation is greater during the holding activities, than during patting and stroking, because the former are generally taken for granted as maternal behavior. Furthermore, holding activities lack the attention-getting motility of the latter.

The term "greeting" was used to designate the words "hello" or "how are you", and in 1 instance the words "O.K. Butchy." Talking was used to designate any speech to the baby other than greeting. The 3 mothers who talked to the baby spoke about sleeping, "There you are sleeping again," etc. (Case 19); "You sleeping, now wake up, you," etc. (Case 24); "You're asleep, so I won't wake you," (Case 22). One of these mothers (No. 19) also talked to the baby when it cried, "Hey, that's not nice. What's the matter with you?"

The small number of initial talking responses may be related to the hospital situation or to the presence of the observer or nurse. Conversation with the nurse during the initial phase may have diverted talking from the baby. There was more conversation directed to the nurse and others than to the baby. Eleven mothers spoke to the nurse or a neighbor about the condition of the baby, his identification (when the wrong baby had been brought), or his resemblance to other members of the family.

One or more responses occurred in 24 observation periods. In all but 2 a single response or a first response was either a smile or a vocal response. The exceptions were holding (Case 7, III) and regarding (Case 18, II).

Two or more responses occurred in 12 observation periods. The second response was vocal in 6, a holding type of response (holding and cuddling) in 4; a patting type of response (patting or stroking) in 2; and regarding in 1.

A composite pattern of the variety and sequence of the responses recorded would begin with a smile and a word of greeting, and gradually increase in the intimacy of vocal, visual, and bodily gesture. A smile and a greeting, vocalizations, then holding and regarding, finally patting or stroking, would complete the pattern. The sequence is not completed by most mothers because, presumably, the baby needs to be fed. The baby remains with the mother for a limited period of time and every effort is made to get as much milk into him as possible.

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put down beside her. As previously pointed out, the observation period was for obvious reasons a questionable entry. The other 2 gave patting or stroking gestures in both initial and end phases. Both were highly maternal. This finding which was proved later to be a good differential of maternal attitude occurred even in the highly curtailed initial phase of these 2 mothers. In the initial phase patting gestures occurred too infrequently in our small group of mothers to permit differentiation. In the end phase, however, the responses were sufficiently frequent to indicate a differential value.

### SECTION V

A comparison of the variety of response in initial and end phase was made for the purpose of obtaining possible clues to the evaluation of the types of response described. The single response or the first response of 2 or more was a smile or vocalization in all but 3 of the 24 initial phases in which responses occurred. In the first or single responses of the end phase a form of body contact was observed with about the same frequency as a vocal response or a smile (13 and 12 of 29 end phases). When further differentiation was made of non-feeding and feeding visits, an interesting contrast was seen. The first or single end-phase response in the nine non-feeding visits included only 2\* body contact responses, both of them holding. The 19 feeding visits including 13 body contact responses, mostly patting.

The end phase response of the holding type of body contact may represent a continuation of the holding during breast feeding. Patting and stroking in the end phase is no longer needed as an act that stimulates sucking. Its resumption in the end phase (and in the absence of crying) requires other activity than holding, cuddling, or embracing. One would surmise, therefore, that of the body contact responses patting or stroking might signify an affectionate gesture more clearly. Feeling and fingering responses will be studied later and in relation to other parts of end phase patterns.

We would anticipate that all the influences that operate to curtail initial responses would be less likely to curtail end response.

\*There were 14 non-feeding visits. In 9 the baby was placed on the bed (in a crib in 1 instance) so that ready contact was possible (Cases and observation periods 11, I; 12, I, II; 15, I; 19, I, II, III; 22, I, II). In the other 5, the baby was held in the nurse's arms throughout the period of observation (13, I; 17, I, II, III; 21, III.)

As time goes on close contact and activity with the baby would tend to strengthen the mutual aspect of the relationship, making it more binding and hence more impervious to distraction or to feelings directed to nurse or observer. Further, we would anticipate that the feeding experience would be more likely to bring this about than a non-feeding visit. Our findings in the end phase, however, do not lend support to such expectations. The number of instances in which mothers gave no response in an initial phase (27 of 51) was fairly well matched by the number who gave no response in an end phase (23 of 52). All the mothers who had non-feeding visits (excepting again Cases 13 and 17) gave end phase responses. In Cases 13 and 17, the nurse held the baby in her arms while talking to the mother. Since in neither case the baby was placed on the bed or in the mother's arms, the periods in which this occurred were considered separately. Furthermore, the question of distraction from mother-infant to mother-nurse relationship because of the talk about a cold (in 4 non-feeding periods) — and probably also the possible protection of the baby by keeping a distance from it — were complicating factors. Differences in the 2 cases were nevertheless apparent. In Case 13, the mother said, "Oh, can I nurse the baby? I have a little cold. I had it when I came in but I don't think it will hurt." A day later she resumed nursing and continued doing so regularly for 6 days when her nipples were cracked and bleeding. In Case 17, however, the mother did not say anything about a cold, at the time of the first nursing. The nurse asked the question as part of her routine, and the mother said yes. Thereafter she used this complaint regularly (though there was no evidence of it) until the fifth post-natal day when she stated frankly that she did not want to nurse.

In the analysis of the items of behavior representing direct maternal response to the baby, we first limited our study to their intrinsic meaning. Other sources of knowledge were excluded in order to learn how much we could derive solely from such observations. Under the limitations imposed by the nature of the study, it is clear that more was learned about the meaning of the behavior in terms of the variety and sequence of response than in terms of attitude. We learned principally to raise doubts about the value of initial phase behavior as the sole source of any certain knowledge on this point. No differential values were found in the study of responses on the basis simply of their presence or absence, except

possibly in a non-feeding period. Study of the types of response gave rise to an inference that patting and stroking might presumably indicate affection more clearly than the other forms.

Now suppose we knew that certain mothers in the group were highly maternal and that others were, if not openly hostile to the baby, at least neglectful or indifferent? We could then compare the observations of response to the baby of mothers high and low in maternal feeling. The comparison would give us the surest test of the presence of a differential value in the responses we are studying.

In Case 22, it appears obvious from the record of observations alone that the mother had little if any affection for her baby. In the first observation period, a non-feeding visit on the second postnatal day, she spent most of the time talking to other patients. She did not make any physical contact with the baby. Her remarks to it were revealing: "You're asleep so I won't wake you. If you wake up you'd probably holler and I get enough of that at home. Go on and sleep. Stay asleep, I like you best that way." To another patient she said, "He'll do I guess, but so many kids." In the second observation period when asked by the nurse, "Do you want to see your baby?" (sixth postnatal day) she replied, "Oh, OK for a little while, but if he screams, come take him. I hear enough crying at home with the others." The baby cried. The mother did not comfort it. She said, "Oh, you're horrible. Didn't I tell you not to cry? Hush up." She did not pull the baby closer to her, or embrace her or use any form of body contact or the usual maternal vocalizations. As the nurse left with the baby she said, "Such a racket, why aren't they born without a voice?" When offered a visit with her baby on the eighth postnatal day, her last day in the hospital, she said to the nurse, "Oh, I don't want to trouble you. God knows he's enough trouble already. No, I can wait to see him till this evening, and anyway I'll be seeing plenty of him and the others. No, that's O.K. don't bother." The nurse asked the mother if she was sure. Mother replied that she was.

The observations are a test also of scores derived from the "maternal feelings" interview. The score of Case 22 was the lowest in the group (and one of the lowest of the scores of over 400 women). The questions used in the interviews are cited in the appendices to the Introduction and Chapter 6. Of special interest is the mother's frank statement that she was never interested in

babies, and also her self-rating of maternal feeling for children as less than average.

Now to return to the initial phase observations of Case 22. When the baby was put in bed beside her she said, "Well, hello." Later she unwrapped the blanket to look at him and said, "He's cuter than my last one, etc." From the presumably known attitude towards the baby in this case we would question greeting and inspecting, as proof of positive feeling. There was no initial response in the second period, the only other one in which observations could be made, since she refused to see her baby on the day in which a third observation was to be made.

Her end-phase responses were talking ("He's very good. He didn't even wake up.") in the first period, and watching, as the nurse took the baby away, followed by a derogatory remark not directed to the baby, and the quick resumption of conversation with another patient. Again from the presumably known attitude of this mother we would now question the value of "talking" and "watching" as indications of positive feeling.

Another obviously unaffectionate mother was observed in Case 17. After preparing to nurse her baby she refused because, she said, she had a cold, though there was no evidence of it. She used the same excuse during the second and third observation period, adding in the latter, that she decided against breast feeding entirely. Refusal to breast feed is in itself not a proof of negative feeling, as has been previously shown. In Case 17, however, there was also no indication of any interest in the baby, no expression of a wish to see it, no response in initial or end phases of three observation periods. Except for one look at the baby, there was no evidence that the mother had any reaction to him except possible annoyance when she was interrupted during a conversation with a neighboring patient. Her interview score was low, next to the lowest in the group.

In her case we learned from initial phase studies alone that she was the only mother who consistently gave no initial responses, and the only one to give no initial response to a baby who was brought in quiet and awake. This case was not included with the others for comparison in the tables since the baby was never placed on the bed.

Of the mothers who nursed their babies, Case 16 had the lowest interview score. She gave 2 initial phase responses, each of them a



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Of the mothers who nursed their babies, Case 16 had the lowest . . . She gave 2 initial phase responses, each of them a

greeting; and one end phase response, watching the nurse as she departed with the baby.

In contrast, mother 18 had the highest interview score of the group. She had always wanted many children. Her early play interests, voluntary mothering of babies in her own childhood, self-rating, etc., were consistent with the replies given by the highly maternal. Her nursing behavior was consistent with the interview score. In the first observation period initial phase responses were smiling, stroking, and regarding; in the second period, regarding.

Another presumably highly maternal mother (according to the interview) was found in Case 23. There were no initial phase responses in the 2 periods observed. In both there were end phase responses, patting and watching in 1, watching in the other.

The test of initial phase data made by comparing responses of obviously high and low maternal women, revealed no important difference except the quality of response in 2 highly maternal women. When applied to end phase data, a striking difference occurred. The 3 "lows" gave either no responses at all (5 "no response" in 8 end phases) or no tactile response. (Three gave responses in all, of which 2 were "talking" and 1 was "watching.") The 3 "highs" gave responses in every end phase with 1 exception (one "no response" in 7 end phases.) All 3 gave evidence of tactile forms of response (the 3 highs gave 11 end phase responses, of which 7 were tactile — feeling, patting, holding or cuddling; the 3 lows gave 3 end phase responses, as described above.)

## SECTION VI

In selecting mothers who were obviously high and low in maternal feeling, according to observations made independently of initial or end phase response, we found that they were high and low also according to their ranking on a scale derived from a standardized interview. The mother, for example, who was frankly hostile to her baby and obviously the least maternal in the group was also the least maternal according to her interview score.

The matching of extremes derived from observation and interview scores is rather reassuring. It does not follow from that fact alone, however, that the middle or other positions of the interview scale would have equal validity. The extremes might represent gross departures from the normal, easily demarcated, because so exaggerated in the maximal or minimal direction. On this point,

we may say that the questions selected for the interview were first empirically determined by inquiries among mothers judged by various clinical studies to be average, above average, and below average. Later the same questions were tested out through written questionnaires on a variety of college populations with the usual statistical methods.\* Whatever the deficiencies of the interview or questionnaire in selection of questions or refinement of statistical method, they do yield scores that allow a graded series of values in terms of "more and less maternal." In applying the order of rank, from highest to lowest, to our observations, we can simplify the problem by applying the observations of initial and end phase observations to mothers above and below the midposition. We can at least infer, on the basis of previous experience with the test, that the group of mothers above the median rank contain more mothers with above average maternal feelings than those below, regardless of errors in the exact position on the scale. Further, where mothers with positions at the ends of the scale have been used as criteria of the significance of an observation, we can test its distribution along the scale. For, if a difference between mothers at the top and bottom of the scale is a difference only of extremes, it should be absent in the rest of the scale. Further, if there is no difference between the extremes one would assume that there would be little or none also among the in-betweens.

Now let us consider the initial phase responses. We have learned so far that they do not differentiate the behavior of the mothers at the top and bottom of the scale. Will this finding hold for the entire group — for number or variety of response?

TABLE V

INITIAL PHASE: NUMBER OF RESPONSES AND RANK ORDER OF  
MOTHERS ACCORDING TO SCORES DERIVED FROM INTERVIEWS\*

(Rank 1 is "most," Rank 19 is "least" maternal)

No. of Responses	Case No.	Rank
0	23, 25, 9, 14, 10, 20, 17	2, 8, 9.5, 9.5, 11.5, 15, 18
1 or 2	13, 24, 16, 22	6, 6, 16.5, 19
3 or more	18, 8, 15, 7, 21, 11, 19, 12	1, 3, 4, 6, 11.5, 13.5, 13.5, 16.5

\*Median rank is in boldface type.

\*David M. Levy, Psychosomatic studies of some aspects of maternal behavior.  
*Psychosom. Med.* 4:223-227, 1942.

greeting; and one end phase response, watching the nurse as she departed with the baby.

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(Rank 1 is "most," Rank 19 is "least" maternal)

No. of Responses	Case No.	Rank
0	23, 25, 9, 14, 10, 20, 17	2, 8, 9.5, 9.5, 11.5, 15, 18
1 or 2	13, 24, 16, 22	6, 6, 16.5, 19
3 or more	18, 8, 15, 7, 21, 11, 19, 12	1, 3, 4, 6, 11.5, 13.5, 13.5, 16.5

\*Median rank is in boldface type.

\*David M. Levy, Psychosomatic studies of some aspects of maternal behavior. *Psychosom. Med.* 4:223-227, 1942.

greeting; and one end phase response, watching the nurse as she departed with the baby.

In contrast, mother 18 had the highest interview score of the group. She had always wanted many children. Her early play interests, voluntary mothering of babies in her own childhood, self-rating, etc., were consistent with the replies given by the highly maternal. Her nursing behavior was consistent with the interview score. In the first observation period initial phase responses were smiling, stroking, and regarding; in the second period, regarding.

Another presumably highly maternal mother (according to the interview) was found in Case 23. There were no initial phase responses in the 2 periods observed. In both there were end phase responses, patting and watching in 1, watching in the other.

The test of initial phase data made by comparing responses of obviously high and low maternal women, revealed no important difference except the quality of response in 2 highly maternal women. When applied to end phase data, a striking difference occurred. The 3 "lows" gave either no responses at all (5 "no response" in 8 end phases) or no tactile response. (Three gave responses in all, of which 2 were "talking" and 1 was "watching.") The 3 "highs" gave responses in every end phase with 1 exception (one "no response" in 7 end phases.) All 3 gave evidence of tactile forms of response (the 3 highs gave 11 end phase responses, of which 7 were tactile — feeling, patting, holding or cuddling; the 3 lows gave 3 end phase responses, as described above.)

## SECTION VI

In selecting mothers who were obviously high and low in maternal feeling, according to observations made independently of initial or end phase response, we found that they were high and low also according to their ranking on a scale derived from a standardized interview. The mother, for example, who was frankly hostile to her baby and obviously the least maternal in the group was also the least maternal according to her interview score.

The matching of extremes derived from observation and interview scores is rather reassuring. It does not follow from that fact alone, however, that the middle or other positions of the interview scale would have equal validity. The extremes might represent gross departures from the normal, easily demarcated, because so exaggerated in the maximal or minimal direction. On this point,

of responses. However, the highest 4 and the lowest 5 ranks included both differentia of number and the A category of response. Actually the largest number of responses were given by mothers who were below the mid-position (Cases 11, 19, 21). In her 3 end phases, Case 19, a low ranking mother, gave 11 responses. They included 1 holding, 1 visual, and every variety of vocal response. On the other hand the highest ranking mother (Case 18) gave 3 responses, feeling, holding, and patting.

The differentiating value of the A category is seen more clearly in Table IX in which the presence of each category is checked against each rank order. Category C has been placed next to D in order to sharpen the contrast of the tactile responses and the absence of all responses.

TABLE IX  
END PHASE: RANK ORDER AND CATEGORY OF RESPONSE

Rank Order	A ( <i>patting or stroking</i> )	B ( <i>other tactile response</i> )	D ( <i>no response</i> )	C ( <i>visual, vocal</i> )
1	A			
2	A			
3	A			
4	A			
6	A			
6				C
6				C
8	A			
9.5	A			
9.5				C
11.5	A			
11.5		B		
13.5		B		
13.5				C
15			D	
16.5		B		
16.5				C
18			D	
19				C

Contrast of highest and lowest ranks in regard to category of response furnished a criterion of value for the entire group. It is particularly interesting that during end phases a significant differential was found in the behavior of mothers observed on 2 or 3 occasions in which the more as well as the less maternal often



TABLE VI

INITIAL PHASE CATEGORY OF RESPONSE AND RANK ORDER\*

	<i>Case No</i>	<i>Rank</i>
A Responses include patting or stroking	18, 15	1, 4
B Tactile response do not include A	7, 19, 12	6, 13 5, 16 5
C Responses vocal or visual only	8, 13, 24, 11, 16, 22	3, 6, 5, 13 5, 16 5, 19
D No response	9, 10, 14, 17, 20, 23, 25	2, 8, 9 5, 9 5, 11 5, 15, 18

\*Median rank is in boldface type

Both Tables V and VI show no particular discrimination. Mothers who rank above or below median appear in every category, except group A which contains only two cases. The findings confirm those derived from testing the responses of mothers at the ends of the scale.

Now let us consider the end phase responses.

TABLE VII

END PHASE NUMBER OF RESPONSES AND RANK ORDER OF INTERVIEW SCORES

<i>No of Responses</i>	<i>Case No</i>	<i>Rank Order</i>
0	20, 17	15, 18
1 or 2	23, 13, 24, 7, 14, 10, 16, 22	2, 6, 6, 6, 9 5, 11 5, 16 5, 19
3 or more	18, 8, 15, 25, 9, 21, 11, 19, 12	1, 3, 4, 8, 9 5, 11 5, 13 5, 13 5, 16 5

TABLE VIII

END PHASE CATEGORY OF RESPONSE AND RANK ORDER OF INTERVIEW SCORES

	<i>Case No</i>	<i>Rank</i>
A Responses include patting or stroking	18, 23, 8, 15, 13, 25, 9, 10	1, 2, 3, 4, 6, 8, 9 5, 11 5
B Tactile responses do not include A	21, 19, 12	11 5, 13 5, 16 5
C Responses vocal and visual only	7, 24, 14, 11, 22, 16	6, 6, 9 5, 13 5, 16 5, 19
D No response	20, 17	15, 18

The difference between the extremes is confirmed for categories of responses, but not for number of responses. In Table VIII, of the 8 mothers above the median, 6 are found in the A category. Of the 9 below the midposition only 1 is found in the A category. The factor determining the A category was a patting or stroking response, a factor that was more selective of rank than the number

baby who was crying and said nothing. The mother said, "I'm glad she's crying, she's usually asleep." As the nurse gave the baby to the mother, the mother said "First she's got to look at me a little," and held the baby and looked at her, before putting the baby to her breast. Her remark was directed to the nurse, and was possibly resistance to the feeling that the nurse expected immediate feeding without the chance of a greeting or other initial behavior.

In Case 9 during the second period the nurse woke up the sleeping baby before giving her to the mother to feed. This activity on the part of the nurse, performed presumably because the mother appeared to need help much more than others, could well have curtailed spontaneous initial response.

In another instance (Case 14), the nurse brought the wrong baby. The process of correcting the error, followed by the nurse's question, "Can you manage alone?" are factors that may have curtailed or prevented initial response.

The wrong baby was brought also in Case 15. The same kind of correction therefore occurred (second observation period). The mother put the baby to the breast at once, and thereafter went on in a manner more usual in the initial phase—endearing talk and kissing sounds.

Instances in which the mother spoke to the nurse about having a cold, whether spontaneously or in answer to the nurse's question, represent distractions that may explain the absence of initial response in those cases.

The nurse's help may imply an attitude on the part of the nurse and of the mother; the one, of wanting to help, the other of wanting to be helped. The attitude may influence behavior that is unnecessary in terms of actual needs. In the case of a mother who has never breastfed before, we would assume that the nurse's help is appropriate in the early feedings, that is, feedings on the first or second postnatal day. Of the 5 breastfeeding mothers who were observed receiving help from the nurse, 2 received help also in a second or third observation period. Three of the five mothers were primiparae.

The nurse's help included adjusting the baby to the breast to initiate sucking, waking it up, telling mother how to hold the breast and how to wake up the baby. There was evidently time for an initial response. Its absence was thought possibly due to the distracting influence of anticipated help from the nurse. The baby's

gave no response. Actual patting occurred in only one of the end phases of all the mothers in the latter group. The generalization which follows is that more maternal mothers are very likely, and less maternal quite unlikely, to show a patting response in 2 or 3 end phases.

Of the 8 mothers who responded with patting, 5 were observed in 3 end phases and 2 were observed in 2. Patting was observed during the first observation period (first or second postnatal day) in 5 instances; during the second (third, fourth, or fifth postnatal day) in 1 instance; and during the third (sixth, seventh, or eighth) in 2 instances. In 1 instance stroking occurred in combination with patting (Case 25). A safe generalization would be that the more maternal women when responding in the end phase will stroke or pat her baby.

Why does a maternal woman, even one who is highly maternal, fail to show response in every end phase? Why is she more likely to show it in the first or second postnatal day than later on? These questions will be considered in the chapter on end phase response. It will be shown that the answers can be derived from analysis of the observed behavior.

## SECTION VII

Of the influences that determined the presence or absence of initial response we learned that the activity of the baby was a determining factor in feeding visits, and of little or no consequence in non-feeding visits. We learned also that maternal attitude as judged by obviously high and low maternal women or by rankings on a scale derived from interviews was not a determining factor in initial phase response.

Besides the appearance of the baby and maternal affection, other influences on initial response were considered. They included activities and conversation initiated by the nurse, by neighboring patients, by the mother, by certain other aspects of the baby's behavior, certain accidental factors and the presence of the observer.

The influence of the nurse was referred to previously in Case 7. In the second observation period, the nurse brought in the baby who was whimpering and said, "She is very hungry." The remark was a hurry call for feeding and presumably discouraged any other response but feeding. In the third period the nurse brought in the

baby who was crying and said nothing. The mother said, "I'm glad she's crying, she's usually asleep." As the nurse gave the baby to the mother, the mother said "First she's got to look at me a little," and held the baby and looked at her, before putting the baby to her breast. Her remark was directed to the nurse, and was possibly resistance to the feeling that the nurse expected immediate feeding without the chance of a greeting or other initial behavior.

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first observation period. Case 13 gave no initial response when she received help. She did respond in the second and third initial phase when no help was given. In the 3 observation periods the baby was awake each time. Case 8, the only 1 of the 5 mothers who responded in the initial phases when the nurse helped her, had one of the top 3 ranks in maternal score. The findings seem to favor the inference that the anticipation of help from the nurse would tend to inhibit initial phase response.

Initial activity of the nurse in the form of remarks or aid to the mother occurred in 13 instances. Of these, 11 occurred during feeding visits. The baby was brought in sleeping or crying 9 times; awake and quiet, twice. Initial response occurred 3 times out of the 11 initial periods. Two of these occurred when the baby was awake. Hence the nurse's activity had little effect in altering the findings in regard to the correlation of the baby's condition and the presence or absence of initial response in Table I. Another way of determining the nurse's influence on initial response was by means of a comparison of the initial phases of the same mother when the nurse initiated help or conversation and when she did not. In Case 7, for example, the mother gave no initial response when the nurse initiated a remark. In the two periods in which the nurse did not begin with help or conversation, she made initial responses. Similar comparisons were available for all the mothers who received help from the nurse in all three periods of observation, excepting one (Case 9). Only in Case 7 was an inconsistency found that could be attributed to the nurse's activity alone. A larger number of cases in which comparisons of this type could be made of initial phases in which the baby was quiet and awake, would reveal the nurse's influence more clearly. It appears that the nurse's activity, as described, however it may have influenced number and variety of response, had little effect in regard to its presence or absence. The fact that initial responses were correlated with the baby's condition in about the same frequency when the nurse initiated activity and when she did not is further confirmation.

Influence of other mothers usually those in neighboring beds presented no difficulty in determining an effect on initial response. In the 2 instances in which this problem arose, a mother was talking to another in the next bed when the nurse arrived. In Case 17 (observation period III), the initial phase was not counted since the baby remained in the nurse's arms. In the second instance

condition in the initial phase was crying or sleeping in 6 of the 8 visits in which the nurse helped the mother. In the remaining 2 the baby was awake and quiet. The details were thought worthy of special study since they included besides the problem of maternal responses the apparent need of the nurse's help.

Mother 8 was observed during her second experience of breast feeding. It was on the first postnatal day. The mother had difficulty getting the nipple in the baby's mouth. When she did so with the nurse's help, the sucking was strong and painful. The mother was tense and kept her body raised and rigid. The nurse helped mother relax. The second observation period was on the following day. There was a special sucking problem, that of rapid, strong sucking and biting, after preliminary refusal to suck. The nurse's help in both instances appeared consistent with the need.

Mother 9 was given help and reassurance by the nurse in the first observation period (third postnatal day); help in the second period (fourth postnatal day) and also in the third period (eighth postnatal day). This mother's ignorance and apparent helplessness were manifested repeatedly throughout the feedings. She asked for advice from neighboring mothers, expressed concern as to the next step repeatedly. She was helped by a neighbor to stimulate the baby's sucking, even on the eighth postnatal day. In her case maternal attitude was apparently an important factor in initiating the help given by the nurse and by others.

Mother 10 was unusually passive in the first 2 periods. When the nurse helped to adjust baby to breast in the first observation period (first postnatal day), she made no helping gesture. The nurse remained with her longer than usual. When the nurse left, the observer called her back, because further help seemed necessary. Mother was just as passive and impervious to the baby in the second period (fifth postnatal day), but the nurse, after putting the baby at her side, left. In this case, the nurse, for whatever reason, did not respond to the mother's apparent helplessness and passivity. During the third period the mother managed very well. The nurse may have decided not to respond to the mother's passivity. However, it is clear that a nurse more likely to yield to her own maternal attitude to patients or babies, would have continued her previous practice.

In the remaining cases (13 and 14) in which the nurse helped in the feeding, her help appeared appropriate to the situation in the

I; "What's he doing, crying again?" etc. (Case 19, III); and "Where is she? She's so small," (the last remark made to the nurse when the baby was brought well-swaddled — (Case 21, I). It is possible that ease or propensity of conversation with nurse or others may have deflected conversation or other responses from the baby, although this does not appear to be the case. Case 14, who responded to the nurse and not to the baby in the first and second periods, responded to neither in the third. Case 15, who responded verbally to the nurse, responded also verbally to the baby and added the response of patting. Case 19 responded verbally to the nurse, then also to the baby and added other forms of response. Case 21 responded verbally to the nurse, and then responded to the baby with a laugh.

In all the instances enumerated, the initial remark of mother to the nurse appeared to have no effect on absence or presence, probably also, on variety of initial response to the baby. This is in contrast to the influence of a remark initiated by the nurse.

There remain for consideration certain aspects of the baby's activity, not included under sleeping, crying, and waking, or similar states (whimpering, wakening, etc.) They are the various facial expressions and activities; screwing of facial muscles, frowns, smiles, blinking, grunting, sneezing, and yawning. They represent, at least, added incentives to initial phase response; at most, the single incentive. In 5 of the 8 instances in which the observation was made, the activity occurred after the baby was brought in and responded to. In each case it evoked a response.

Mother 12 was smiling at her baby, cuddling, then cooing, when the baby sneezed 3 times. Each time mother said, "Oh!" Mother 15 said "Oh, you cute-ums, how are you?" and patted her baby. The baby yawned. The mother said, "Well, what's the matter?" etc. Mother 19 (observation in second period) had already responded, and then the baby opened one eye. However, the mother did not notice it, since at the time she was rising in bed to a sitting position. In the next observation period the baby made a grimace. The mother laughed and said, "Oh, what a darling face." However, initial responses had preceded. Mother 22 said when her baby's eyes opened and closed, "Aw, c'mon, keep 'em open now." Initial responses had also preceded this remark.

In three instances a special facial expression was noted on arrival. The baby of mother 8, when first observed, arrived with its



(Case 22, observation period I), the mother gave 2 initial responses. It is interesting that the mothers who were engaged in conversation up to the moment the nurse was at the bed (Cases 17 and 22) were among the low ranks in interview scores (rank number 15 and 18). It seems reasonable to regard the behavior described as evidence of indifference to the time of the baby's arrival, since in these hospitals the time for visits was scheduled and known to all. It is in striking contrast with the behavior of the others who anticipated the baby's coming and were in readiness for it.

In the 2 cases we have just considered, the distraction of conversation was not considered a primary determinant. It was in itself a manifestation of attitude. The mother in Case 17 was obviously hostile to the baby. It was known that she used the excuse of a cold as a pretext to avoid breast feeding on the three observed occasions. When the baby was taken away she made no response to it and on the occasion when she was presumably distracted, she resumed conversation with her neighbor as soon as she finished telling the nurse she decided not to breast feed.

In the second case (22) the mother spent most of the first observation period (a non-feeding visit) talking to other patients. In the second period she lay with her eyes closed when the nurse appeared with the baby. The nurse asked if she wanted to see the baby and she replied, "Oh, O.K. for a little while, but if he screams, come take him. I hear enough crying with the others." The third occasion, when the nurse appeared, she was reading a magazine and the nurse asked if she wanted to see her baby and she refused.

Influences on initial response resulting from the mother's physical condition were probably significant in one observation period (Case 12, observation period II). In that instance the mother was quite drowsy when the baby came and gave no initial response. Sickness of the mother, a cold in each case, has been considered previously. An instance of marked weakness due to hemorrhage which apparently favored tender responses to the baby (Case 21, observation period III) was not included because the baby was held in the nurse's arms throughout this brief visit and because of the mother's illness.

Most frequent under the category of the mother's own behavior were remarks initiated by the mother to the nurse; e.g., "Well, I hope she does better this time" (Case 14, I); "Was that my baby crying (Case 14, II); "Oh, she's a redheaded one," etc. (Case 15,

## SECTION VIII

We have tried to study maternal response to the baby in the first postnatal week by collecting observations of the behavior of mothers in hospitals. Our first efforts were made to learn how 4 workers, who read and judged the records of these observations derived maternal feelings from the various items of observation.

The same items of observation were then studied for their intrinsic values; that is, values derived from considerations related to the observational items alone; considerations uninfluenced as far as possible, by knowledge that stemmed from other sources. Finally, the observations were studied with the aid of knowledge that stemmed from other sources, chiefly from interviews that dealt with interests, feelings, and activities related to the maternal behavior in the individual's past history.

In this chapter the methods described were applied primarily to the initial phases of the observation periods. The judgments as determined by scoring the behavior items revealed a series of conventional inferences, derived from words in the record that were synonyms of expressions of affection or from observations that were obviously proof of maternal hostility or indifference to the baby.

A number of problems arose during the investigation of the initial phase that have relevance to all phases of the observation period and generally to all studies of social relationships. They are concerned with the demarcation of the relationship and of the attitude to be studied from other relationships and attitudes. Demarcation of relationship was less difficult in the initial than in the feeding phase. Maternal response to the baby is an observation that implies a response to no one else at the time. A sequence of events in any item of observation in which an activity of the baby was followed by an activity of the mother does not imply necessarily that the latter was a response to the former. A mother might have responded to the nurse, utilizing various activities with the baby as a way of proving, for example, that she was a good mother. A comparison of the items of observation with an eye to their consistency and to their variations in different situations during the observation periods, besides special consideration of the absorption of the mother's attention to the baby facilitates the process of demarcating the relationship. When, however, the mother's response appears to follow some activity or expression of the baby, but is actually a response to her own body sensations, a condition

face screwed up. The mother laughed. In the next visit she greeted the baby with laughter and squealing. It arrived whimpering. It would appear that if facial expression was an incentive for initial response, this mother did not need it. The baby of mother 18 arrived awake and blinking its eyes. Mother made no responses that could be traceable to the blinking. She took the baby from the nurse and rubbed a finger over its forehead, then stroked its head and face. At the next observation period, mother's initial response was "regarding." Stroking occurred immediately after the baby was at the breast. Mother 19, whose baby engaged in some special facial maneuver in each observation period, arrived in the second one, blinking and opening one eye. The mother responded with much talk. "Well, well, is that an eye opening for a change?" etc. Mother 21 was quite ill during the third observation period when the baby came. The inclusion of this observation is questionable for that reason. The baby blinked its eyes. The mother was very tender in her response. There was nothing to indicate special response to blinking.

As an influence in determining initial response, there is no evidence that the baby's facial expression as described was the exclusive factor initiating the response of any mother in the series. We have no instance in which a mother responded to her baby on one occasion only when it grimaced, blinked, or yawned, etc. As an influence in augmenting initial response, however, it is evident that it had a definite effect.

The influence of the observer could not be discerned in any initial phase. In one instance a mother who initiated conversation with the nurse did so also with the observer. From the observations available one would infer that whatever notions a mother might have had about the person standing at the foot of her bed and taking notes, she responded in the initial phase as though the observer were absent.

A review of all the "other influences" appears to confirm the inference that the condition of the baby, as depicted in Table I was the main influence in determining the presence or absence of initial response when the baby was to be fed. When the baby was seen for a non-feeding visit, initial response, when it occurred, occurred regardless of the condition in which the baby appeared.

*Case 8*

- I. When baby was brought in, mother laughed at the face the baby made.
- II. Baby was just awakening when brought in, and whimpered. Mother was very excited. She laughed and squealed.
- III. No record. (Observer arrived after baby was brought in.)

*Case 9*

- I. When baby was brought in crying, mother made no response.
- II. Baby was asleep and placed in bed with mother. Nurse woke him up. Mother adjusted herself to accommodate baby's position; otherwise made no response.
- III. Mother made no response until after baby was placed beside her.

*Case 10*

- I. Brought in asleep. Nurse woke up baby. No response from mother. Nurse put him beside mother, held his head and put baby to mother's breast. Mother made no movement to hold baby or help the nurse.
- II. As baby was brought to mother, she gave no response.
- III. Mother was sitting up in a chair when baby was brought to her. She took baby from the nurse and put him to breast. Otherwise, no response.

*Case 11*

- I. Nurse brought baby, but did not put it beside mother in bed. Baby was asleep, and was left in crib. Mother smiled when nurse entered, but could not see baby from prone position. Lifted herself with difficulty and looked in crib. Supported on right arm. Smiled, spoke softly to it, cooed. Said it looked just like her other baby; it had the same face and hair, but this one cried like a boy. Said there could be no mistake about his sex. Mother could no longer hold herself in this position, and lay down again, though she could not see into the crib. Looked in the direction of the crib and smiled. Nurse came and took the baby away after five minutes.
- II. Baby was wide awake and crying when nurse brought him in. Mother cooed as the nurse entered the ward and turned in position for breast feeding.
- III. As nurse brought the baby towards her, mother smiled and said, "Hello."

*Case 12*

- I. As baby was brought in, mother looked at it and smiled. Mother was trying to sit up at the time and nurse told her to lie down.

that occurs frequently in the feeding phase, the problem is more difficult. Specific examples of this type will be considered in the next chapter.

The problem of demarcating one attitude from another is concerned in this investigation with the differentiation of the feeling of affection from other feelings towards the baby. It was concluded that the various forms of initial response or their absence in feeding periods were determined by the mother's feeling of urgency in regard to feeding. This urgency was not felt in non feeding periods and consequently, according to our theory, initial responses were then present and numerous. The mothers who were highly maternal or average or below, according to criteria based on observations or interviews revealed nothing in their initial phase behavior, in feeding or non feeding periods, that differentiated one group from another. We could conclude only that the feeling of affection for the baby during the initial phase, eluded our method of observation. In the end phase, however, certain observations appeared to be quite consistent with the assumption of a feeling of affection.

Behavior that showed no differential value in regard to feelings of affection included activities related to the care and feeding of the infant, besides numerous activities ordinarily considered to be evidence of affection. The inference that affection was revealed in certain kinds of behavior and not in others was based on analysis and comparisons of the specific items of observation and on the knowledge of maternal feelings derived from general observations and interviews.

## APPENDIX

### Initial Phase Response (Reception of baby when nurse brought baby to mother)

#### Case 7

- I \* When nurse came towards her with the baby, mother smiled. Baby awake and crying.
- II Baby wide awake and whimpering. Nurse brought her in saying "She's very hungry," and baby was put immediately to breast.
- III Baby crying. Mother said, "I'm glad she's crying. She's usually asleep." Nurse handed baby to mother. Mother held baby and regarded it before putting it to breast saying "First she's got to look at me a little."

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\*Observation periods are in Roman numerals

- III. Mother was sitting up in bed talking to patient beside her. Turned over in direction of baby. Told nurse she couldn't nurse her baby because she had a slight cold, and then turned to talk to other patient. Nurse interrupted to ask when mother would start to nurse.
- I. (First nursing) Mother shifted position in bed and nurse asked her if she felt well. Mother said she had a slight cold. Looked at baby.

*Case 18*

- I. Smiled. Took baby from nurse, put her across her knees. With a finger mother stroked baby's forehead and face, looked at baby and then around the room. Mother then repeated the stroking and the looking. (Seven minutes of above.)
- II. Put on mask. Sat straight up. Took baby from nurse. Looked at baby.

*Case 19*

(Mother refused to breast-feed. Baby was bottle-fed. When these observations were made baby was brought to mother and left with her, though not to be fed by her.)

- I. Smiled broadly. Sat up in bed, picked up baby, cradled him, said, "There you are sleeping again. Every time I see you you're sleeping. Come on, open your eyes so I can see you. Atta boy." Mother looked at baby, smiled, touched him softly.
- II. Mother was very impatient when baby was not brought in at the expected time. Said, "They must have lost him. Come on, babe." When brought to her, mother sat up, laughed, held baby in arms, smiled down at him, chuckled him under the chin, poked at his face gently, said, "I want him to open his eyes."
- III. When brought in, baby was crying. Mother said, "What's he doing, crying again?" Nurse said, "Screaming." Mother said to baby, "Hey, that's not nice. What's the matter with you?" Mother held him on her knee. Baby grimaced. Mother laughed and said, "Oh, darling! What a face!"

*Case 20*

- I. Baby brought in asleep. Mother put on mask. Took baby. Laid it before her on bed.
- II. Baby asleep. Mother took him from nurse. Said nothing. Put baby beside her on bed.
- III. When baby was brought in, mother was reading a book. She put it down, turned over in bed to get her mask. Said nothing. Nurse held baby while mother put on mask.

- II As baby was brought in, mother smiled Baby was placed beside her Mother put her arm around the baby, cuddled it, cooed and laughed
- III When nurse brought the baby, mother was half asleep She turned over toward the baby, and gave no response (Because of retracted nipples mother fed her by bottle )

*Case 13*

- I When nurse brought the baby, mother said, "Oh, can I nurse the baby? I have a little cold I had it when I came in, but I don't think it will hurt" Nurse replied mother would have to wait, and mother said, "Thank you"
- II Mother smiled
- III Mother smiled

*Case 14*

- I When nurse brought baby mother said, "Well, I hope she does better this time She went to sleep the whole time"
- II When nurse brought baby, mother asked if that was her baby crying like that and nurse said, "No"
- III No response

*Case 15*

- I Mother smiled and said, "Oh, she's a red headed one My mother in law is red headed too" Put baby beside her, said, "Oh, you cute-ums! How are you?" Patted baby gently
- II Nurse brought baby Mother said "That's not my baby" Nurse had brought the wrong one Nurse brought in correct baby She asked mother if she could manage alone Mother said, "Yes," and put baby to breast

*Case 16*

- I Observer was asked to wait outside while baby was identified Mother was smiling at baby
- II Mother had lipstick on Greeted observer gaily Baby brought in asleep Mother said, "O K, butchy" Made a face at baby Mother made no attempt to wake up baby Mother said she was waiting for the nurse to come help her feed the baby Made no attempt to try it herself Held baby in her arm Didn't look at him Talked to other patient and observer
- III Baby brought in Mother said, "Good evening"

*Case 17*

- I No response
- II Told nurse she couldn't nurse because she didn't feel well Looked at baby, said nothing Nurse took baby, said nothing Nurse took baby away Mother turned in bed Closed her eyes.

- II. Mother had mask on and breast in readiness for nursing. Nurse put baby down beside her. Mother gave breast immediately.

#### Case 24

- I. Mask on, breast prepared. Baby brought in asleep and put in bed at mother's side. Mother said, "That's mine. You, sleeping. Now wake up, you, Mary, come on, Mary. Come on, come on."
- II. Mother sitting up, prepared to nurse, and put baby to breast immediately.

#### Case 25

- I. Prepared for nursing. Baby put on bed. Mother started to nurse at once.
- II. Baby brought in crying. Mother said, "That's mine again." Mother prepared for nursing. Baby, awake, put by mother, and immediately to breast.
- III. Brought in asleep. Mother took him in her arms and immediately to breast.

End Phase Response (Response at end of period, when nurse returned and took baby away)

#### Case 7

- I. Nurse returned, asked how everything had gone. Mother said, "Well, she sucked pretty well, but she went to sleep for about 5 minutes." Nurse took baby out.
- II. Nurse came to take baby. Mother told nurse that baby did very well.
- III. Nurse took baby from breast (37 minutes after entry.) Baby didn't cry or open its eyes. Mother said, "Bye, bye, we're going home tomorrow."

#### Case 8

- I. Baby still sucking when nurse took her away, was very sleepy, but didn't cry when removed from breast.
- II. Mother cuddling baby when nurse returned. Mother looked at baby, smiled, did not talk. Nurse took baby away.
- III. Patting, cuddling baby and making kissing sounds when nurse arrived. When nurse took baby mother said, "Well, goodbye. I hope you like your bottle better and don't spit up."

#### Case 9

- I. At end of period baby had nipple in mouth though not sucking. Mother said she was cramped but didn't know how to take the nipple from his mouth, so she didn't move. Nurse



*Case 21*

- I Baby brought in asleep and well swaddled Mother said, "Where is she? She's so small" Laughed
- II Sitting up in bed mask on, when nurse came with baby Mother said, "Hello," and took baby immediately and put her to breast
- III Mother reached out for baby and smiled Patted baby's cheek softly and baby's hand

*Case 22*

- I Mother was not breast feeding She said she didn't want to because of her other children at home When baby was brought in asleep, she was talking to other patients Moved over a little in bed as nurse put baby beside her, and said, "Well hello" Unwrapped blanket a little to look at baby and said to patient in next bed, "He's cuter than my last one when he was this old He'll do, I guess but so many kids!" She looked down at baby and said, "You're asleep so I won't wake you If you woke up, you'd probably holler, and I get enough of that at home Go on and sleep" Mother turned away from baby and talked to the other patients until nurse returned Twelve minutes
- II Mother was lying in bed, eyes closed Nurse said, "Do you want to see your baby?" Mother turned over slowly and said, "Oh, O K, for a little while, but if he screams, come take him I hear enough crying at home with the others" Nurse put baby on bed beside mother Baby asleep Nurse said they could stay only a few minutes as he had to be fed Mother looked at baby (She did not pull baby close to her or put her arms around her)
- III Mother to be discharged in afternoon At 9 A M nurse told mother doctor was examining baby and asked if she wanted to see baby after exam was over Mother, then lying in bed, said, "Oh, I don't want to trouble you God knows he's enough trouble already No, I can wait to see him till this evening and anyway I'll be seeing plenty of him and the others. No, that's O K Don't bother" Nurse asked mother if she was sure Mother said, "Oh, yes That's all right I'll see him later"

*Case 23*

- I Mother had mask on and breast in readiness for nursing Nurse put baby down beside her Mother gave breast immediately

- III. Mother had been bottle-feeding baby. Towards end of period baby was asleep. Mother looked at baby, around the room till nurse returned (20 minutes). Nurse took the baby. Mother gave the bottle, removed mask, closed her eyes.

*Case 13*

- II. Difficulty nursing because of baby's biting. After removing breast mother said, "Aw, I'm sorry I have no milk." She laughed and patted baby with a forefinger. Nurse came and took baby. She told mother he'd do better next time (38 minutes). No response from mother.
- III. Baby sucking breast when nurse returned. Mother said everything had gone beautifully. She still had some milk. Squeezed breast to show nurse. Nurse took baby.

*Case 14*

- I. Baby asleep at mother's side, making sucking movements. No response from mother. Nurse returned and asked if it was all right. Mother said, "Yea." She asked nurse if baby's eyes had been examined. Nurse said, "Yes, and they were fine." Mother groaned. Baby still asleep.
- II. Baby asleep at mother's side. Mother moved away from baby, looked at her, laughed, and looked around room. Nurse returned. Mother said baby had nursed for 20 minutes. Nurse took baby who still slept.
- III. Baby sucking weakly. Mother looking around room. Laughed in response to a joke told to other patients. Nurse returned (25 minutes). Mother made no response.

*Case 15*

- I. Nurse returned after 5 minutes and took the baby. Mother said, "Goodbye, honey," after patting baby and making kissing sounds.
- II. Nurse returned after 30 minutes. Mother was busy keeping baby awake to suck at breast. As baby was taken away mother said, "Goodbye, sleepyhead, puss, puss," and made loud kissing sounds.

*Case 16*

- I. This was the first nursing period and nurse remained through most of it. When nurse came to take baby after 18 minutes it was asleep. Mother was looking at it. Nurse took it away. Mother watched, then turned to observer and said, "Is that all?"
- II. Baby asleep at mother's side. Mother turned a bit to look at him. Said to observer, "I think it's a good idea to keep his sleeves tied up. I think I'll do the same thing when I take him

came and took baby (35 minutes). Mother sighed and stretched.

- II. Baby was sleeping when nurse came. Mother had patted him, felt his body and cooed. As nurse left with baby mother took off mask, watched nurse wheel baby out.
- III. Baby continued to suck at intervals till the nurse returned (25 minutes). Mother talked to another mother about going home that day. Nurse returned, took baby. Mother sighed and said, "Well, that's over with." Asked nurse if she could get up and get dressed.

#### *Case 10*

- I. Baby asleep. No response from mother. She removed mask and covered up breast, while nurse took baby out of room. Mother groaned and then closed her eyes.
- II. Baby at breast, nipple in mouth, not sucking. No response from mother. Nurse returned and took baby from mother. No response.
- III. Mother in chair. Baby falling asleep. Mother looked at baby, stared into space, patted baby now and then. When nurse returned (35 minutes) mother got up, gave baby to nurse and went back to chair. No response.

#### *Case 11*

- I. Baby was kept in crib next to this bed. At end of period mother was looking in direction of crib, smiling. Nurse came and took baby away (5 minutes). Mother made kissing sounds as baby was wheeled away.
- II. Baby asleep next to mother. Mother moved herself back a bit, lay and looked at him. smiled and cooed. When nurse came mother said, "He was so good and ate a lot." As nurse left with baby mother said, "Bye, bye, cookie" (30 minutes).
- III. Baby continued to suck till nurse returned (30 minutes). Nurse asked if baby had finished. Mother said, "I don't know." Nurse picked up baby who whimpered. Nurse said, "Go to sleep, fella, go to sleep." As nurse put baby in crib, mother turned away and closed her eyes.

#### *Case 12*

- I. Baby at mother's side, asleep. Mother smiled, talked about baby to other patient. Nurse came and took baby away (10 minutes). Mother smiled at baby, made soft kissing sounds.
- II. Baby asleep in crook of mother's arm, mother looking at her. Nurse took baby (10 minutes). Mother not nursing. Mother asked nurse when they fed baby, because she cried so loudly.

to look at its back. Its head flopped over. Mother laughed and said, "Oh, you darlin', you sweet." She held baby as he slept, looking at him, smiling and laughing. Nurse at bedside. Mother said, "Aw, you brought him late and took him early (20 minutes). It's not fair." Nurse took baby. Mother said, "Well, goodbye, darling. I'll see you tomorrow."

- III. Mother talking to baby. She kissed baby's head. Said, "I snuck one in, but don't tell the nurse." Nurse came and took baby. Mother said, "Oh, please feed them. They're so hungry."

#### Case 20

- I. Baby stopped sucking. Mother removed breast. Baby lay still, eyes closed. Mother looked at her; didn't speak or move. Nurse came and took baby (23 minutes). No response from mother.
- II. Baby asleep. Mother closed her eyes (24 minutes) and remained so until nurse came and took baby from mother's side (30 minutes). No response from mother.
- III. Baby asleep, on very edge of bed away from mother. Mother sat up, covered breast, then lay down with back to baby, picked up a book and read until nurse came. Nurse asked, "Did you make him eat?" Mother said, "He won't eat." Nurse took baby. Mother sighed, removed her mask and resumed her reading.

#### Case 21

- I. Baby asleep. Mother tried to wake her, looked around ward, laughed at something a patient said, looked at baby. Put a hand around baby's back, smiled and looked at her (30 minutes). Nurse came. Mother said, "I couldn't get her to wake up. She was very bad today." Laughed. Nurse said baby would be all right and not to worry. Nurse took baby. Mother removed mask, lay back on pillows, watched nurse as she took baby out of the ward (32 minutes).
- II. Baby asleep. Held baby in arms. Looked at her and in space. Nurse came (27 minutes) and asked mother if baby were through nursing. Mother said, "I guess so. She hasn't taken any in a long time, though I've still got lots." Nurse took baby. Mother removed mask, no response.
- III. (Mother was ill and not breast-feeding. Baby brought to mother for 4 minutes.) When baby was taken away mother smiled at her and said, "Goodbye, honey. Be good."

home (17 minutes)." She started to read the newspaper again and continued until the nurse came for the baby (25 minutes). Mother said, "He's not nursing."

- III. Talking to another patient while baby slept at breast, nipple held in mouth. Continued for 8 minutes until nurse came (30 minutes). Then mother removed nipple from baby's mouth, handed baby to the nurse, and resumed her conversation.

#### Case 17

- I. (Mother didn't nurse because she said she felt sick.) Nurse took baby away. Mother turned over in bed and closed her eyes.
- II. Mother said she couldn't nurse baby because she had a slight cold. Mother returned to her conversation with other patient as nurse took baby away.

#### Case 18

- I. Baby asleep. Mother put a hand on baby's leg, looked at baby, then around the ward, then at nurse (who was coming to take the baby), and then at baby. Mother lifted baby to nurse. Mother patted baby's head and said to nurse, "She sure doesn't take to it." (Difficulty breast-feeding because baby was asleep.)
- II. (Unsuccessful feeding.) Mother holding baby asleep across her knees. Mother looked down on baby once in awhile. Talked to another patient until the nurse came. Nurse stopped a moment and then left to make rounds. Before she left mother said, "She'll be hungry this evening." She put baby on bed beside her, picked up a newspaper and started to read it. Nurse took baby and mother continued reading.
- III. (Breasts engorged, nipples cracked. Nursing stopped by doctor's orders.) Mother said to observer she hoped her nipples would be well soon so she could start nursing again. She asked nurse if she could see her baby even though she wasn't nursing. This was not allowed because of hospital regulations.

#### Case 19

- I. Baby sleeping, Mother said, "What's the matter, honey, something bothering you? I'd give anything if you'd open your eyes a second, for Pete's sake." Nurse came and took baby. Mother said, "Goodbye, honey, goodbye. Hope you'll wake up next time, sleepyhead." She watched nurse and baby leave. She lay on pillows and said, "They're so cute."
- II. Mother put baby across her knees and said, "I can see you better this way. Open your eyes, darling. You've got all day to sleep and I only see you this little bit." Turned baby over

*Case 25*

- I. Baby asleep at breast, nipple in mouth, not sucking or holding. Mother kept the nipple there, and patted the baby. Nurse came (17 minutes) and took baby. Mother said, "Such a sleepyhead." She removed mask and watched departing figures of nurse and baby.
- II. Baby asleep. Mother looked at baby and around the ward. Nurse came (19 minutes) and took baby. Mother watched, removed her mask.
- III. Mother stroked baby's hair. She continued breast-feeding until nurse came (23 minutes) and took baby from breast. Mother watched as nurse took baby.

## Case 22

- I (Mother not nursing) Baby asleep Mother said "Stay asleep, I like you best that way" Then she talked to other patients till nurse came for baby (12 minutes) Mother said, "He's very good He didn't even wake up" Nurse took baby away No response from mother
- II Baby crying loudly and waving hands up and down Mother didn't try to comfort him Mother called nurse and said, "Nurse, please come and take him He's crying and he must be hungry I can't make him stop" Nurse was coming as mother called She took the baby who was still crying and said, "You'll be fed soon, Sh sh" Mother watched nurse take baby away and said, "Tsk, such a racket Why aren't they born without a voice? They make so much noise for nothing" She turned over in bed and began talking to another patient (8 minutes)
- III (Mother, given a choice, preferred not to see the baby)

## Case 23

- I (14 minutes after entry) Mother looked at baby, felt baby's clothes and blankets, then looked at ceiling while her hand was on baby's back Nurse returned and took baby (17 minutes) Mother patted baby's back once more and watched nurse as she took baby away
- II Baby at mother's breast, sucking occasionally Mother lay quietly, stared at floor Nurse came (21 minutes) and said, "He's getting good" Mother nodded Nurse picked up baby Mother watched as nurse took baby away, removed her mask, covered her breast, and lay down

## Case 24

- I Mother still had baby on breast when nurse came (25 minutes) Mother was talking to baby "Come on, fat stuff That's all for today You should start sooner if you're going to eat so much" She removed the nipple from baby's mouth Baby's eyes were closed Baby made 5 sucking movements and then was still Nurse took baby Mother turned over, took off mask, and began talking to other patients
- II Baby still at breast as nurse entered the ward (23 minutes) Mother said, "Thank God!" She removed nipple from baby's mouth As nurse came close, mother pushed baby into nurse's arms and said, "Oh! Oh, God! It's terrible" She put a hand on her breast Baby's eyes half-open as nurse took baby away
- III (Mother's nipples were cracked and breast feeding stopped)

<i>Case No</i>		<i>I*</i>	<i>II</i>	<i>III</i>
18	Initial	smiling stroking regarding	regarding	
	End	feeling patting	holding	
19	Initial	smiling cuddling talking regarding touching	laughing holding smiling chucking	talking holding laughing
	End	talking goodbye watching	holding talking laughing regarding smiling goodbye	talking kissing
20	Initial	—*	—	—
	End	—	—	—
21	Initial	laughing	greeting	smiling patting
	End	embracing smiling regarding watching	—	smiling goodbye
22	Initial	greeting talking	—	
	End	talking	talking	
23	Initial	—	—	
	End	patting watching	watching	
24	Initial	talking	—	
	End	talking	—	
25	Initial	—	—	—
	End	patting talking watching	watching	stroking watching

\*Observation periods are in Roman numerals A dash signifies no response



## BEHAVIORAL ANALYSIS

## INITIAL AND END PHASE RESPONSES

<i>Case No</i>		<i>I*</i>	<i>II</i>	<i>III</i>
7	Initial	smiling	—	holding regarding
	End	—*	—	goodbye
8	Initial	laughing	laughing squealing	(initial phase not observed)
	End	—	cuddling smiling	patting cuddling kissing sounds
9	Initial	—	—	—
	End	—	patting feeling cooing watching	—
10	Initial	—	—	—
	End	—	—	patting
11	Initial	smiling cooing regarding	cooing	smiling greeting
	End	smiling kissing sounds	regarding smiling cooing goodbye	— —
12	Initial	smiling	smiling cuddling cooing laughing	—
	End	smiling kissing sounds	holding regarding	—
13	Initial	—	smiling	smiling
	End	—	patting	—
14	Initial	—	—	—
	End	—	laughing	—
15	Initial	smiling greeting	—	—
	End	goodbye patting kissing sounds	goodbye kissing sounds	—
16	Initial	smiling	greeting	greeting
	End	watching	—	—
17	Initial	—	—	—
	End	—	—	—

## INITIAL PHASE: BABY'S FACIAL EXPRESSIONS OR ACTIVITY

<i>Case No.</i>	<i>Observation Period</i>	<i>Baby's Facial Expressions or Activity</i>	<i>Maternal Response</i>
8	I	screwed up face	Laughter.
12	II	sneezed three times	Response preceded sneeze. Said "Oh!" last time.
15	I	yawned	Response preceded yawn. "Well, what's the trouble?"
18	I	awake, blinking	Smiling, stroking, regarding.
19	I	asleep and then opened one eye	Response preceded, "Atta boy."
	II	blinking, opened one eye	"Hey cutie, where were you? Well, well, is that an eye open for a change. Cutie, come, open the other one." Laughter.
	III	facial grimace	Response preceded. Mother laughed. Then she said, "Oh, what a darling face."
*(21	III	blinking	No special response. Brief visit.)
22	II	eyes opened and closed	Response preceded "Aw c'mon - keep 'em open now."

\*Parentheses enclose initial phases considered questionable. See text.

## SECTION II

The feeding phase, in this study, includes the period of time in which the mother had the baby at the breast for the purpose of feeding it. It starts when the baby is put to the breast and ends whenever the mother stops trying, if the baby does not suck; whenever the baby stops sucking and the mother does not try to encourage it to begin again; or whenever the baby's sucking is stopped by the nurse when she takes the baby away at the end of the observation period.

The feeding phase as seen during an observation period may be discontinuous. In unsuccessful feeding cases, for example, a mother may stop all her efforts for a while and take time out to caress the baby, chat with her neighbor, or just rest. In successful feeding cases similar pauses may occur, especially when the baby's sucking is steady and strong.

## SECTION III

Behavior that is essentially feeding behavior, may best be differentiated from other behavior. This is not always possible. There is little difficulty however in differentiating behavior that is, at least, directly related to the feeding, observed, for example, in the large variety of activities used to stimulate the baby to suck; shaking the breast, running the nipple over the baby's lips, jiggling the baby, slapping its feet, etc. Activities of this sort appear to be part of the job of feeding a baby.

At the same time activities of a different sort occur; talking, laughing, grunting, touching the baby's face, holding its hand, etc. They are seen concurrently in any variety of feeding behavior. They may be so enmeshed in the pattern that it is sometimes difficult to tell them apart. Patting the baby's back may be done for the purpose of burping it, or loving it, or both.

The same problem occurs in activities more clearly inherent in the function of feeding. The stimulating maneuvers used to initiate the baby's sucking may at any moment represent an affect of impatience, or anger, or affection. Negative affect in the stimulating activities is more likely to appear during feeding failures after repeated efforts to rouse a sleeping infant and get it to suck. Positive affect is more likely to appear when feeding is successful; that is, when sucking is fairly continuous and strong during most of the time allotted for a feeding period.

## CHAPTER 2

# FEEDING PHASE

## SECTION I

Of the methods of investigation employed in the previous chapter, namely, a study of the scoring of observations, of observations alone, and of observations augmented by other data, the first can be dealt with briefly. The scores which represented the judgments of 4 scorers as to positive and negative maternal feelings toward the baby revealed the same kind of agreement and disagreement in the feeding phase as in the initial phase. There was close agreement when the mother's behavior was qualified by conventional descriptions of affectionate behavior or the opposite. There were similar discrepancies in scoring "ordinary" maternal behavior; in this phase, burping, reinserting the nipple in baby's mouth, and various activities designed to initiate the sucking and keep it going. This kind of discrepancy has been discussed in the previous chapter.

The negative scores helped in directing special attention to observational items like gazing at the ceiling, looking around the room, and similar descriptions of behavior in which the mother kept her gaze away from the baby for varying periods of time during breast-feeding.

The negative scores helped also in directing our attention to the different kinds of stimulating activity employed by the mother. Judgments made right off the record were particularly weak in regard to observations that could be interpreted as lack of attention to the baby or rough handling. Such observations, as will be shown, need careful study before they can be clearly discerned. The largest discrepancies in the preliminary ranking of mothers on two scales, the one based on observations, the other on interviews, were due to the frequency of "minus" scores assigned to observations interpreted as roughness or lack of tenderness in stimulating the baby to suck.

side motion, then held the baby's cheek firmly and jiggled it. She repeated the rolling movement on the baby's body. She shifted her position again and then patted the baby's back hard and rolled her body. Then she brought the baby closer to her, brushed her nipple across the baby's lips, and pushed the baby's hand.

The manipulations used to initiate and stimulate the sucking, in this case as in others, were adapted to the infant's response. The better the response, the milder the stimulation. When the response of sucking was not forthcoming, increasingly stronger measures were used to bring it about. In that event maternal feelings may be revealed in the manner of performance, in the kind of stimulation employed and in the verbalizations. The evaluation was based on a comparative study of the behavior of the same mother in different observation periods, besides the behavior of all the mothers in the group. What appears to be rough handling or evidence of marked impatience may represent typical maternal behavior under the trying conditions of a feeding failure.

In Case 7 the mother's most frequent forms of stimulation were insertions of nipple and jiggling the breast. When these methods were no longer effective she expressed annoyance and stimulated more rapidly and vigorously. She stimulated the baby about 17 times in all using 9 different ways of doing so. Pushing chin, cheek, hand, hard patting, rolling head and body, brushing nipple over baby's lips and loud sounds, were the methods employed besides nipple insertion and breast oscillations.

The mother's remarks indicating annoyance or impatience or anger were addressed mainly to the baby. They are listed in sequence: (1) "C'mon, c'mon, I'm afraid to spank you." (2) "C'mon, c'mon, oh, she's getting me nervous now, c'mon, c'mon." (3) "Oh, I don't know how to wake her up." (4) "I wish you'd cry. When you get home you'll be yelling your lungs out." (5) "You bad girl, c'mon for God's sake." (6) "Oh, are we going to start this all over again?"

Each remark was followed by a strong stimulation. The word "c'mon" was repeated frequently. It was especially loud and harsh in the second remark and was followed by pushing the cheek vigorously. The fifth remark was followed by pushing the baby's hand. Each act was the only one of its kind and probably marked the instance of strongest feeling.

In analyzing the observations of maternal behavior during the feeding phase we began with a study of intrinsic feeding behavior, particularly the stimulating and helpful activities referred to. The attempt to find within the intrinsic behavior, meanings other than feeding function, was made through analysis of the separate items, their sequences, and their relationship to other data available to us, by the methods illustrated in the previous chapter.

Besides intrinsic and accompanying behavior there are periods in the feeding phase when the mother may take time out from feeding or related activities, for other purposes. One purpose quite apparent was to give affection to the baby. Intervals of this sort occurred during or after the feeding. They will be considered separately.

#### SECTION IV

Before proceeding to the task of compiling and analyzing the data it was thought advisable to present an illustration with comments of a case sample. It contains a complete account of a single feeding phase and affords the reader a preliminary view of the kind of observations that were available to us and the problems of classifying and differentiating them.

In Case 7 the first record of observations was made 2 days after the birth of the baby. The job of breast feeding required repeated stimulation to keep the baby awake. Sucking was slow and weak during the first 10 minutes. In the remaining 22 minutes continuous and more active stimulation resulted in a few minutes of sucking. In all about 10 to 12 minutes of sucking occurred in the half hour period observed.

The mother began stimulating the sucking by inserting her nipple into baby's mouth and shaking her breast. The baby often held the nipple in the mouth without sucking it and often released the nipple. Its sucking was weak and slow. The mother reinserted the nipple frequently. As time went on the baby released the nipple more quickly, or did not take hold. After the first 10 minutes the baby shook her head, grunted, waved a hand energetically and then fell asleep. In the remaining time, excepting a few minutes, the mother was unsuccessful in keeping it awake.

After breast jiggling and nipple insertion in the first 10 minutes the mother used stronger measures. Shifting her position in bed, she pushed her baby's chin and rolled her head with a rapid side to

ments also to inhibit the sucking in spite of all maternal coaxing. The infant purses his lips, pushes out the nipple, shakes his head. The mother may feel herself in the throes of a strong apparatus, especially in the early days of sucking before mother and infant have made an easy adaptation to the act of nursing. The mother's attitude to the infant during the nursing may be at odds with her attitude to the infant in other situations in which he appears so passive and helpless.

The observations and comments in the case selected for illustration were used to indicate the method to be followed in the study of the feeding phase. It follows in principle the method used in the study of the initial phase. The problems however if not as complicated are more numerous.

## SECTION V

Our records of the activities employed by mothers to stimulate their babies to suck allowed a rough measure of frequency, a more accurate measure of variety. After classifying the stimulations according to the kinds of activities and the parts of the body on which they were exercised, an attempt was made to count them. This was done to get a clearer picture of differences in their employment, since our enumeration was adequate for that purpose. As a first approach to this problem it would seem best to organize the observations on stimulation in all breast feeding periods according to frequency and variety alone.

A mother may urge her baby to suck by stroking her nipple over the baby's mouth. She may make one stroking movement or many. She may do it slowly or rapidly. Single or multiple, slow or fast, the particular activity is counted as one stimulation. If the mother stops a series of stroking movements and starts another of the same kind, the second series is counted as a second stimulation. In the example cited above the mother pushed the baby's chin, then rolled its head, then jiggled its cheek and then rolled its body. These maneuvers were ineffective. The baby did not suck. The mother then repeated some of her previous stimulations and added new ones.

Each activity was counted once whether it occurred as single or multiple movement. The kind of activity employed at any given time rather than the frequency of its separate movements determined the count. On occasion when a type of stimulation was

Impatience with the infant's lack of response was ushered in with the remark, "I'm afraid to spank you." It was preceded by the infant's letting the nipple out of its mouth after it had been sucking weakly and slowly in the first 10 minutes. Release of the nipple after this time apparently signified to the mother that she would have to start stimulating all over again. She had used as stimuli breast movements and nipple insertions. Now her first effort at getting the nipple back in the infant's mouth failed. The baby did not take hold. She shook her head as though to resist the nipple. Then just before the mother said "C'mon, c'mon, I'm afraid to spank you," she cupped the baby's head in her hand, to hold her in position firmly at the breast. Then after the remark cited above she pushed the baby's chin down in order to get the nipple in her mouth, and rolled the baby's head from side to side against her breast.

The feelings evoked by nursing failure are very likely to be directed to the infant. "Projection" is apparently quite common in this situation. The remark "I'm afraid to spank you" places the blame on the infant for not sucking, like the remarks "you bad girl" and "Oh, are we going to start all this over again." All the unpleasant feelings experienced by the mother during breast feeding, annoyance or anxiety or fatigue or pain may be charged at the moment to the baby, as though the baby were quite aware of the mother's behavior and its own.

The tendency to endow the baby with attributes it obviously does not possess has its origin in several sources. One of these may be the general tendency to explain all annoying behavior, animate or inanimate, that appears to have an end point or goal, as motivated. Most pertinent to this study, however, is the infant's rapid development of sucking power and skill. Particularly at the breast when both mother and infant are coupled in a process so intimate and purposeful it becomes difficult to avoid ascribing deliberate intention to the infant when sucking is painful, or when the breast is refused. ("Ow, you hurt. You bad girl." "C'mon, take more, you won't drink all my milk.")

During the breast feeding the mother's feeling that she is dealing with a fragile and helpless thing changes according to our observations in a few days. By the third postnatal day the mother has had repeated experience with an infant who can clamp down hard on her breast, make powerful sucking movements and powerful move-



## FEEDING PHASE

The only other problem that need concern us in this connection is the activity of the nurse when she helped the mother, usually at the start of an early feeding, to stimulate the baby to suck. The nurse's activity was easily separated out from the rest. Her stimulations were recorded and compared with those employed by the mother. They will be considered in a later section.

In the table that follows all the details of stimulation have been culled out of the records and arranged according to the kinds of activities and the parts of the body employed in utilizing them. In Case 7, for example, there were three observation periods. In the first, eleven varieties of stimulations were employed. They included such activities by the mother as cupping the baby's head to bring her closer to the mother's breast, shaking or jiggling her breast against baby's face, using her nipple to stimulate by inserting it in baby's mouth and brushing it over baby's lips, patting baby's back, shaking and rolling the baby's body, rolling the head, pushing the chin, shaking or jiggling the cheek and pushing the head. The most frequent kind of stimulation used was shaking the breast, an act that occurred too often and too rapidly for accurate count.

In the second and third observation periods there were 6 varieties of stimulation in each. The most frequent form was breast shaking again in both. In contrast with the first period of observation the latter contained no stimulating activities involving the head, nipple or chin. The second period in contrast with the first and third contained frequent stimulations involving the cheek and hand.

When the kind of activity alone was considered, a jiggling or shaking movement occurred much more frequently than all other movements in the three observation periods combined. In Case 7 the mother said, "I like to pinch." The same movement used to stimulate sucking was used also to indicate affect.

repeated rapidly, and its frequency as stimulation units was too difficult to count, the observer indicated frequency by such terms as "continuously," "repeatedly," etc.

The task of counting every breast movement, jiggle, pat, slap, push, etc., even if it could be done accurately, is quite burdensome. It carries also the danger of losing important observations through absorption in minutiae of questionable value for our purpose.

Differentiation of the patterns of stimulation, our immediate problem, was achieved by the method employed, in spite of a number of inaccuracies. One of them occurred in observations of behavior usually secondary or ancillary to stimulating activity, particularly movements designed to bring the baby closer to the breast for the purpose of making a nipple stroke or insertion or a breast rubbing stimulus more effective. They were easily lost sight of when attention was focussed on the primary stimulus.

Another inaccuracy occurred very likely in the count of insertions of the nipple. One reason may be due to the tendency to overlook an act that appears so naturally and so frequently part of the mother-infant relationship. Another may be due to confusion, since the nipple, used as stimulation to initiate sucking by repeated inserting and withdrawing, was not so considered when it was inserted and sucked. An error would be made in counting both kinds of insertions as stimulations. It was less likely to be made when nipple stimulation took the form of rubbing or brushing the lips, or when insertions were repeated and forceful.

Breast manipulation involves shaping the breast with hand and fingers to push out the nipple and so aid the baby's purchase on it, especially when the nipple is flat, short or inverted. The observation is easily lost since it may be difficult to differentiate from simply holding the breast in position.

The number representing the different kinds or variety of methods gives a more accurate figure since in that case each kind of stimulation is counted only once. When we include variety and frequency we have a good figure for the number of different kinds of stimulation; a poor figure for the frequencies with which each kind was utilized. However, the latter was useful when limited to the study of large differences as, for example, between a mother who used a hand-slapping stimulus many times and a mother who used it a few times or not at all.



TABLE I

VARIETY AND FREQUENCY OF STIMULATION USED BY 15 MOTHERS IN EACH OF 37 BREAST-FEEDING PERIODS\*

Case Number	7	7	7	8	8	8	9	9	9	10	10	10	11	11
Observation period	I	II	III	I	II	III	I	II	III	I	II	III	II	III
Breast bringing baby closer to manipulation of	1		1											
shaking, jiggling	††	2†	†					†	2			1	††	††
Nipple inserting	3								3	1		†	1†	
touching lips with														
brushing, rubbing lips with	1											1	1	
Body: back or chest														
patting, stroking	1		3		†				2†			1		
shaking, jiggling	1		1											
slapping, hitting														
rolling	1								†					
Head														
patting, stroking					†									
rolling	1													
Chin														
patting							1††							
pushing, chucking	1													
touching				1										
Cheek face														
patting, stroking			†	†††	††									†
touching, rubbing with fingers						1								
shaking, jiggling, pinching	1	1††												
slapping, hitting														
Hand														
playing with			†	1										
holding (the moving hand)			1											
pushing, moving	1													
slapping, hitting, flicking														
Arm														
patting			1											
moving			†	1										
shaking, squeezing			1											
Feet														
patting														
moving														
shaking														

\* For unit of stimulation see text. The sign † is used to indicate a very frequent stimulation, not counted but estimated as employed at least more than six times.

A comparison of first and second feeding periods shows a larger variety and frequency in the first period in the majority of cases (variety number larger in 8, equal in 3, smaller in 1.) The assumption of more frequent difficulties in sucking and lactation in the earliest feedings led us to anticipate a greater contrast. The average number for variety of stimulations was 4.8 for the first, 3.3 for the second, and 3.0 for the third and latest period of observation.

TABLE III

VARIETY AND PARTS OF THE BODY EMPLOYED IN STIMULATING THE BABY  
USED BY 15 MOTHERS IN EACH OF 37 BREAST-FEEDING PERIODS

<i>Body Part—Stimulation</i>	<i>Frequency</i>
<b>Breast</b>	
bringing baby closer to	9
manipulation of	2
shaking, jiggling	17
<b>Nipple</b>	
inserting	18
touching lips with	3
brushing, rubbing lips with	12
<b>Body: Back or Chest</b>	
patting	13
shaking, jiggling	8
slapping, hitting	4
rolling	6
<b>Head</b>	
patting, stroking	2
rolling	1
<b>Chin</b>	
patting	2
pushing, chucking, jiggling	4
touching	1
<b>Cheek: Face</b>	
patting	6
touching, rubbing with fingers	1
shaking, jiggling, pinching	5
<b>Hand</b>	
playing with	3
holding (the moving hand)	1
pushing and moving	3
slapping, hitting, flicking	4
<b>Arm</b>	
patting	1
moving	2
shaking, squeezing	3
<b>Feet</b>	
patting	3
moving or shaking	2

TABLE II

STIMULATION VARIETY AND FREQUENCY COUNTS\*

Case No	Observation Period	Variety	Frequency	Case No	Observation Period	Variety	Frequency
7	I	11	24+	15	II	3	13+
	II	8	32+	16	I	3	9+
	III	6	13+		II	1	2
8	I	3	3		III	0	0
	II	3	15+	18	I	5	7
	III	0	0		II	11	26+
9	I	3	21+	20	I	3	5
	II	1	6+		II	1	1
	III	4	15+		III	6	25
10	I	1	1	21	I	11	21
	II	0	0		II	8	26
	III	4	9+	23	I	6	9
11	II	4	26+		II	6	21+
	III	1	12+	24	I	5	37+
13	II	2	10+		II	0	0
	III	6	11+	25	I	6	20
14	I	1	7+		II	1	2+
	II	1	1		III	3	8
	III	1	8+				

\* Frequency refers to the total number of stimulations. The + sign following a number means that the number is minimal because of repeated, rapid stimulation that could not be counted. Variety refers to the different kinds of stimulation that were employed.

A brief survey of the table reveals gross differences in variety and frequency of stimulation by the mothers in the group and by the same mother in different observation periods. There were instances in which no stimulation was recorded and instances in which a stimulation was used only once. There were instances in which one stimulation was used many times, others in which a large number of different stimuli were each used once or twice. The same mother may have used many in one feeding, few in another, as in Case 25, in which 6 different kinds of stimulations were employed, 20 times in the first observation period, and only one kind, on one occasion only, in the second observation period.

TABLE IV

MOST FREQUENT METHODS OF STIMULATING THE BABY\*

<i>Case No.</i>	<i>Observation Period</i>	<i>Stimulation</i>	<i>Case No.</i>	<i>Observation Period</i>	<i>Stimulation</i>
7	I	Jiggling breast	16	I	—
	II	Jiggling breast		II	—
		Jiggling cheek		III	—
	III	Jiggling breast	18	I	Inserting nipple
		Patting back		II	Slapping hand
8	I	—	20	I	Inserting nipple
	II	Patting cheek		II	—
	III	—		III	Inserting nipple
9	I	Patting chin	21		Slapping hand
	II	Jiggling breast		I	Slapping hand
	III	Patting back			Inserting nipple
		Rolling body			Patting back
10	I	—	22	II	Shaking cheek
	II	—			Slapping hand
	III	Inserting nipple	23	I	Patting back
11	II	Jiggling breast		II	Shaking arm
	III	Inserting nipple	24	I	Jiggling breast
13	II	Inserting nipple			Inserting nipple
	III	Jiggling breast	25	II	—
14	I	Jiggling breast		I	Touching lips with nipple
	II	—			Patting back
	III	Jiggling breast		II	—
15				III	Inserting nipple
	II	Pushing chin			

\*A dash means that no stimulation was found that was used more than twice. When two are given they are listed in the order of frequency. When one is given it was the only frequent stimulation employed.

In searching the data for possible clues to maternal attitude a differentiation was first made of the mothers who used a single stimulation or none at all (in any one observation period) and the others. The two groups were then compared according to their rating on scores derived from interviews. Table II yielded 7 cases containing at least one observation period in which only 1 stimulation or none at all was found (Cases 8, 10, 14, 16, 20, 24, 25). They contained women high and low in the scale. When the same

Wide differences occurred, also, in regard to the body parts employed. Some mothers, for example, favored action on the baby's hand, others on the baby's chin or on their own breast or nipple. Mothers also differed greatly in the number of body parts they stimulated. The table that follows is derived from Table II. It includes all the varieties of stimulations and the parts of the body on which they were employed.

Breast jiggling, inserting the nipple, and patting the back were the most frequent single kinds of stimulation employed. The mother's nipple was the part of the body most frequently used as an instrument of stimulation. The manipulations as described in the table may be readily perceived as varieties of delicate and rough maneuvers. Touching, patting, slapping, shaking, rolling, may be so considered. In the tables the activities were described and classified without further qualification in order to find out first what could be learned from a simple and clear-cut differentiation. In a later section we will consider such qualifications as the force used by the mother in the stimulation employed, for example, inserting the nipple in baby's mouth by pushing it hard.

When the type of activity as such was considered, aside from nipple insertion, shaking movements led all the others (40+). Patting came next.

Differences in stimulation patterns are partly dependent on custom and hospital practice. Flicking the feet, a common practice in some hospitals, was used rarely by the mothers in our group. Breast jiggling, nipple insertion, back patting, patting or shaking the cheek, and slapping the hand, comprised the majority of stimulations used, in regard to variety and frequency.

Individual choice of a favorite method of stimulation showed little more consistency than variety or frequency. Only three mothers consistently used the same method (breast jiggling) as their method of choice in each feeding.

Jiggling the breast may have served in most instances as a way of moving the nipple since it was done while the nipple was in the baby's mouth. Use of nipple insertion, nipple rubbing, etc., were classified separately since they represent a different kind of activity, apparently also a stronger stimulus.

Other frequent or favorite methods included patting the baby's back, shaking baby's body, slapping or flicking the hand and jiggling the cheek. They are listed in the following table.



TABLE V

STIMULATIONS EMPLOYED EXCLUSIVELY IN EARLIER AND LATER FEEDINGS,  
ARRANGED ACCORDING TO BODY PARTS

	<i>Stimulations Employed Only in the First of 2 or 3 Feedings by the Same Mother (14 feedings)</i>	<i>Stimulations Employed Only in the Later Feedings (22 Feedings)</i>
<b>Breast</b>		
closer	5	2
manipulation	0	2
jiggling (shaking)	2	6
<b>Nipple</b>		
inserting	6	2
touching	3	0
rubbing	5	4
<b>Body</b>		
pat	3	5
shake	1	4
hit	2	0
roll	2	4
<b>Head</b>		
pat	1	1
roll	1	0
<b>Chin - face</b>		
pat	2	0
touch	1	0
push	1	1
<b>Cheek</b>		
pat	1	1
touch	1	1
shake	0	1
hit	1	0
<b>Hand</b>		
play with	1	2
holding	0	1
push	3	0
slap	0	2
<b>Arm</b>		
pat	0	1
move	0	1
shake	0	3
<b>Foot</b>		
pat	2	2
shake	0	1

Table V is to be read as follows. The number 6 following the word "inserting" means that six mothers used nipple insertion as a method of stimulation in the first and not in their other periods.

comparison was made for variety rather than frequency, the table yielded 9 cases (8, 9, 10, 11, 14, 16, 20, 24, 25). There was again little difference in the group. Three were above median, 4 below, and 2 were median.

A search for possible indicators of attitude in the observations made of the anatomical sites of stimulation (Table III) and in observations of the favorite method of stimulation used (Table IV) revealed nothing significant. The most maternal and the least maternal women in the group according to criteria described in the previous chapter, revealed little difference in the methods they employed or in the body parts they selected as sites of stimulating activity.

The most maternal woman in the group used as her most frequent method slapping and flicking the baby's hand (Case 18). This type of stimulation was apparently stronger and harsher than patting the back and jiggling the breast. Yet the latter were the most frequent types of stimulation employed by the least maternal of the breast feeding mothers (Case 16).

Some interesting differences were found in the kind of stimulations employed only when the earlier and later feedings of each case were compared in the following way. From Table II stimulations were selected that were used exclusively in the first of the 2 or 3 feedings in each case. Case 7 in Table II, for example, was observed during 3 feedings. Six kinds of stimulations were employed exclusively in the first of the 3 periods. They were not used at all in the remaining 2. In the latter 6 kinds of stimulations were employed that were not to be found in the first period. Of the total of 17 kinds of stimulations listed for Case 7, 6 were exclusive to the first period; and 6 exclusive to the later periods. When only 2 periods per case were available for study the earlier one was compared in the same way with the later one. Table V that follows includes all the stimulations selected in the manner described.

The most frequent parts of the body on which the mother's stimulating activities were applied were her own breast or nipple. The most frequent kind of stimulating activity took the form of rapid shaking of the body of the breast and insertion of the nipple.

Variety of stimulations were more numerous in a first feeding than in a second. This was possibly due to less skill in sucking on the part of the baby, less skill in nursing on the part of the mother, and less lactation. The difference was much less than anticipated. The activities that were used in stimulating the baby fell readily into a scale of mild to strong stimuli; for example, touching, patting, slapping, shaking, rolling. These different kinds of activities were studied in various ways. Significant correlations of frequency, variety, method of choice, or delicacy as compared with roughness of stimulations, and degree of maternal feeling were not found. The only finding of note was to the effect that early feedings as compared with later ones contained more instances of the exclusive use of nipple stimulations and fewer instances of the exclusive use of shaking movements.

## SECTION VII

It seems obvious that a baby who is avid for the breast presents a different problem to the mother than the baby who is loath to suck. The anticipation of difficulty in feeding, as we have learned, affected the greetings that preceded the feeding phase. Difficulty in getting the baby to suck means difficulty in getting the baby to respond to stimulation.

The time during which a baby sucked was the criterion used in classifying feeding success. Continuity of sucking over periods of time was considered first without regard to the number or vigor of the baby's sucks or length of the pauses, or satiation. The mother's primary concern was to keep the baby sucking. Her efforts in stimulating the baby to suck increased as the baby's propensity to suck decreased. The typical sucking pattern consisted of a multiple series of sucks that gradually decreased in strength and frequency. As sucking grew weaker and slower, stimulating activities grew stronger and faster. When continuity of sucking depended on continuity of stimulation, the periods of time used for sucking were really measures of the mothers' success. Continuity of sucking, however, was achieved in a number of feeding periods with little or

The number 2 in the next column means that two mothers used nipple insertion as a method of stimulation in the second or third feeding period observed, and not in their first period.

TABLE Va

STIMULATIONS EMPLOYED EXCLUSIVELY IN EARLIER AND LATER FEEDINGS, ARRANGED ACCORDING TO TYPE OF ACTIVITY: STIMULATIONS OF BREAST OSCILLATIONS AND NIPPLE ACTIVITIES NOT INCLUDED

	<i>Number of First Feedings</i>	<i>Number of Later Feedings</i>
Touching	5	1
Pushing	4	1
Shaking	1	11
Rolling	3	4
Patting	9	10
Hitting or slapping	3	2

Table V indicates how frequently mothers used a type of stimulation in an early feeding though not in a later one, and vice versa. The average number of such stimulations was larger in the first as compared with the later feedings (averages 3 and 2, respectively). Excepting the nipple, which was used as an exclusive method more frequently in early feedings, no outstanding differences in regard to body parts are revealed.

When the stimulations are arranged according to type of activities (see Table Va), a marked difference is seen in regard to shaking activities. Excluding breast oscillations, the difference may indicate the more frequent employment of stronger or rougher stimulations in the later feedings.

## SECTION VI

The mother's way of stimulating the baby to suck was studied first by listing the different kinds and numbers of activities she employed for that purpose in every feeding period and the different parts of her own and the baby's body on which she applied these activities. A large variety of methods and marked differences in the frequency of their employment were found. This proved to be the case also for the same mothers observed in 2 or 3 feeding periods. In some feedings they displayed a large variety and frequency of stimulations; in others very few or none at all.

TABLE VI

CLASSIFICATION OF BREAST FEEDINGS ACCORDING TO ESTIMATED SUCKING TIME\*

Case Number	Observation Period	Duration (minutes)	Sucking Time	Classification
7	I	32	12	C
	II	33	27	A
	III	37	30†	A
8	I	30	30	A
	II	25	25	A
	III	20	20	A
9	I	35	30	A
	II	30	20	B
	III	25	1 to 2	E
10	I	30	15	C
	II	25	10	D
	III	35	7	D
11	II	30	20	B
	III	30	30	A
13	II	28	5	D
	III	35	28	B
14	I	28	10†	A
	II	30	20†	A
	III	25	23	A
15	II	30	20	B
16	I	18	2	E
	II	25	0	E
	III	30	20	B
18	I	25	0	E
	II	33	1 to 2	E
	III	23	2	E
20	I	30	15	C
	II	30	1 to 2	E
	III	30	0	E
21	I	30	0	E
	II	27	20	B
	III	17	1	E
23	I	21	21	A
	II	25	20	B
	III	23	23	A
25	I	17	1	E
	II	19	13	C
	III	23	23	A

\* For explanation, see text.

† Sucking was stopped after a period of time prescribed by physician.

When the data in the preceding tables were arranged according to the classifications based on feeding success and failure (Table VI), it was found that the variety and frequency of stimulations increased as the sucking time decreased. In other words, the more time a baby used for sucking, the less urging it received. This sounds quite obvious; nevertheless, the differences were by no

no effort on the part of the mother. The mother needed only to insert the nipple in the baby's mouth and sucking went on.

There was a large variety of sucking and of stimulation patterns. The latter, as observed in our group, were principally adaptations to the baby's propensity to suck. In the case of feeding failures where stimulating activities resulted in a few minutes of sucking or none at all, some mothers redoubled their efforts, others stopped all stimulating activities. The same mothers, indeed, acted quite differently in their response to failures on different occasions.

Classification of the feeding on the basis of the time used for sucking, as described, resulted in 5 groups. An estimate of 4 minutes or less per feeding period was classified as E; 5 to 10 minutes, D; 10 to 15 minutes, C; 15 to 20 minutes, or most of the period, B; and more than 20 minutes or almost the entire period, A.

The proportion of time available during a feeding period rather than exact time was the criterion used. A mother whose baby sucked all the time or almost all the time she had available for the baby during a period was classified as A, whether the period was 20 minutes or 30. In most instances the actual time corresponded to the time as specified. In 1 case the mother was advised, because of a painful feeding, to keep the baby at the breast 10 minutes. There was no problem in stimulating the baby to suck. The baby sucked as long as it was allowed to stay on the breast. The feeding was classified as A.

result came about. Some of the feedings in which sucking was continuous throughout required little or no stimulation. In others such success was achieved by continuous stimulation. The ease and the difficulty of feeding will be considered in a later section.

This reasoning does not apply, however, to the feedings in which satisfactory sucking was not achieved. How explain the large differences in variety and frequency among the feeding failures? As stated previously, large differences occurred in the feeding records of mothers high and low on the scale of maternal feelings.\*

<i>Condition of Baby at Initial Phase</i>		<i>Feeding Classification</i>				
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Asleep	17	2	4	2	2	7
Awake and quiet	8	2	3	0	1	2
Crying	12	9	0	2	0	1
Total feedings	37	13	7	4	3	10

Babies who arrived crying were much more likely to be ready to suck and to suck continuously than babies who arrived sleeping. The latter included the large majority of difficult feeding cases.

## SECTION VIII

Before attempting an explanation of individual differences in number and variety of stimulations, the feeding classifications were checked against the part of the body most frequently employed. Table VIII which follows includes only those feedings in which a body part was used for the purpose of stimulating the baby to suck three times or oftener.

\*The condition of the baby as described in Chapter 1 may now be considered in terms of feeding success.

means as large or as consistent as one would anticipate on that basis.

TABLE VII

## VARIETY OF STIMULATIONS AND BREAST FEEDING CLASSIFICATIONS

Case No.	Classification				
	A	B	C	D	E
7	8		11		
8	6				
	3				
	3				
	0				
9	3	1			4
10			1	0	
				4	
11	1	4			
13		6		2	
14	1				
	1				
	1				
15		3			
16		0			3
18					1
					5
20			1		11
					3
21		8			6
23					11
24	6				6
	0	5			
25	3		1		6
Average		3	4	5	

Among the successful feedings (A and B), 8 of the 21 had only 1 kind of stimulation or none at all. Seven of them had more than 4. Among the 12 feedings which were failures or near failures (E and D), 2 had only 1 kind of stimulation or none at all; 8 had more than 4. Examples of the largest varieties and frequencies of stimulations were found oftener, as expected, in the D and E groups, but such examples were found also in the others. The C or mid-category contained 4 cases. Three of them had only 1 kind of stimulation.\*

One explanation of these discrepancies applies particularly well to the A group. The reader will recall that the classifications were

\*When frequencies of stimulation were compared ascribing the number 6 to frequencies of a stimulation considered too rapid for an exact count, the average for the A and B and for the D and E feedings was the same (12), based on sucking time regardless of the manner in which the



result came about. Some of the feedings in which sucking was continuous throughout required little or no stimulation. In others such success was achieved by continuous stimulation. The ease and the difficulty of feeding will be considered in a later section.

This reasoning does not apply, however, to the feedings in which satisfactory sucking was not achieved. How explain the large differences in variety and frequency among the feeding failures? As stated previously, large differences occurred in the feeding records of mothers high and low on the scale of maternal feelings.\*

Condition of Baby at Initial Phase		A	Feeding Classification				E
			B	C	D		
Asleep	17	2	4	2	2	7	
Awake and quiet	8	2	3	0	1	2	
Crying	12	9	0	2	0	1	
Total feedings	37	13	7	4	3	10	

Babies who arrived crying were much more likely to be ready to suck and to suck continuously than babies who arrived sleeping. The latter included the large majority of difficult feeding cases.

## SECTION VIII

Before attempting an explanation of individual differences in number and variety of stimulations, the feeding classifications were checked against the part of the body most frequently employed. Table VIII which follows includes only those feedings in which a body part was used for the purpose of stimulating the baby to suck three times or oftener.

\*The condition of the baby as described in Chapter 1 may now be considered in terms of feeding success.

TABLE VIII

BODY PART MOST FREQUENTLY EMPLOYED FOR STIMULATION IN EACH FEEDING  
CLASSIFIED ACCORDING TO SUCKING TIME

Case No	<i>Feeding Classifications</i>				
	A	B	C	D	E
7	breast breast		breast		
8	cheek				
9	chin	breast			body
10				nipple	
11	breast	breast			
13		breast		nipple	
14	breast breast				
15		chin			
16					breast
18					nipple
20					hand
21					nipple
23	breast	cheek			nipple
24		breast			nipple
25	nipple				body

The mother's manipulation of her breast was most frequently in the form of jiggling it. Action with her nipple was most frequently insertion

The 15 A and B feedings in Table VIII include 10 in which movement of the breast was the most frequent type of stimulation. Of the 11 D and E feedings, the nipple was most frequently employed in 7. In the A and B feedings the nipple was the preferred part for use in stimulation in one feeding only. In the D and E feedings the breast was the favored site of stimulation in 1 feeding. When the second most frequent body parts were counted, the breast was used twice and the nipple twice in the A and B feedings. In the D and E feedings the second most frequent body part was the baby's back or chest in 3 feedings and the mother's nipple in 2 feedings. The breast was first or second in frequency in 12 of the 15 A and B feedings, the nipple in 9 of the 11 D and E feedings.

The difference of the two groups was that of relatively easy and difficult feedings. The use of the breast was the preferred instrument of stimulation for the former, the nipple for the latter. The

inference seems obvious that direct stimulation by use of the nipple was regarded as a stronger stimulus than activity on the body or the breast.

When the most frequent methods, other than breast or nipple were compared as to type of activity, the stimulations in the D and E group included rolling the baby's body (Case 9), slapping and flicking the hand (Cases 18 and 20). In the A and B feedings they included patting the back (Case 7), patting back and cheek (Case 8), patting the chin (Case 9), shaking the arm (Case 23). The contrast was helpful in determining differences in the strength of stimulations employed.

By applying a classification of the feedings to our data we have learned that some of the differences in stimulation patterns may be accounted for by differences in difficulties experienced by mothers in getting the baby to suck; also, that as these difficulties increased, stronger stimulations were more likely to be employed.

### SECTION IX

A glance at Table VI in which the feedings were classified shows that when 2 or 3 feedings by the same mother were rated differently, the later ones were more successful in most instances (improvement in 8, same in 3, worse in 2, up and down in 1). When the first was a feeding failure or nearly so, the second or third was an improvement in 5 of the 7 instances available. This finding is consistent with the baby's development of sucking skill, a process discernible in the first few days after birth.

Success in feeding as measured by sucking time was arranged according to postnatal days in the following table.

TABLE IX  
FEEDING CLASSIFICATION AND THE POSTNATAL DAY  
(37 feedings)

Postnatal Day	A	B	C	D	E
1	2		1		3
2	1	1	1		4
3			1	1	
4	4	5	1		1
5				1	1
6	2	1			
7	4			1	
8					1
Total ~ 37					

Most of the E feedings (7 out of 10) occurred in the first 3 days; most of the A feedings occurred on the fourth and later days (10 of 14). Proportionate to the time available in the feeding periods, sucking occurred more than half the time during the first 3 days in 5 of 15 cases; and more than half the time during the later days in 16 of 22 cases.

Consider Case 18. Both feeding periods were classified as E. There was no sucking at all in the first and less than 2 minutes of sucking in the second. Observation of the first period was made on the second postnatal day when the baby was little more than 34 hours old. Observation of the second period was made 2 days later, on the fourth postnatal day. In Table I the count of stimulation units for the first period is 7; for variety, 5. For the second period the count of stimulation units is more than 26, for variety, 11.

In both periods the mother had the same problem, that of nursing a baby who would not be wakened. In both the results in sucking time was zero or nearly so. The mother's behavior, however, was quite different. In the first she did not start to nurse for 7 minutes after receiving her baby. This preliminary period was spent in fondling. Stimulation was then employed by means of inserting the nipple, rubbing it over the baby's lips and gentle shaking. After 2 minutes of such efforts to which the sleeping baby made no response, the mother stopped and spent her remaining time fondling the baby and looking about the hospital ward. When the nurse returned the mother handed the baby to her, gave baby's head a final pat and said, "She sure don't take to it."

In the second period no time was spent in preliminaries. Stimulating activities continued longer than 26 minutes and in comparison with the first period were incessant and rough. As the mother's efforts to get baby to suck were unavailing, her stimulations became faster and stronger. Flicking the hand and patting the back especially increased in force and frequency. The mother's annoyance came to expression after 21 minutes when she said, "Come on. I've been fooling with you for almost a half hour." Thereafter, stimulations continued 5 minutes longer though with lessened force. During the remaining 7 minutes the mother stopped trying. She talked to her neighbor in the next bed, meanwhile turning to look at the baby from time to time. When the nurse came to take the baby the mother made no response.

In the 2 observation periods there were marked differences in every phase; initial phase, feeding and end phase. The baby's lack of response to stimulation aroused different patterns of behavior, as though of 2 different mothers, the one tender, loving and yielding, the other concentrating all energy in getting milk into her baby.

Similar contrast of maternal behavior in early and later feedings was seen also when the early feeding was a failure and the later one a success. In Case 23, for example, the first feeding on the second postnatal day was classified as E; the second, on the sixth postnatal day was classified as A. Sucking time in the former was no more than 1 minute. In the latter sucking was more or less continuous throughout the period. Nevertheless, stimulations were softer and less frequent in the former, presumably the more frustrating feeding (frequency 9, stimulation by touching or brushing lips with nipple 2, back patting 3) than in the latter (frequency more than 21, stimulations included body shaking).

The clearest differentiation of stimulations early and late in the neonatal week may be made by comparing an early and late feeding by the same mother and recording the kinds of stimulations employed in one and not in the other. Suppose that the early feeding is a failure and the late feeding a success, or vice versa, and suppose both the early and the late ones are failures. If in all such pairs of feedings we find that all the earlier ones contained milder stimulations than the later ones, we would conclude that regardless of the ease or difficulty in getting the baby to suck, the method of making it do so would be very likely a milder one in the early feedings. The finding that in feeding failures the baby was stimulated less frequently and forcibly in an early feeding gave the first intimation of an early-and-late difference. When the early feeding was a successful one in terms of sucking time, and the late one a failure, milder stimulations in the former were accounted for by assuming that less stimulation was necessary. When, however, the early one was a failure and the later one a success we assumed that the former would require more frequent and forceful stimulation than the latter. In the table on paired comparisons (Table X), there are 4 in which the later feeding was a success (A) or near success (B), the early ones all failures. In 3, the latter ones received stronger stimulations than the earlier ones. The exception (Case 16) was a partial one. The early E feeding received mild stimula-

tion The later A feeding was evidently an easy success since no stimulations were employed

The A and B feedings could not all be compared like the others because in some of them there were few stimulations or none at all A and B feedings will be compared in a later section in regard to ease and difficulty in achieving sucking response When they required stimulation, the response of sucking was more readily achieved, as shown in the previous section, than in other feedings A proper comparison for our purpose would be made by considering only those early and late A or B feedings that received frequent stimulations There were only two such pairs available for comparison (Case 7, feedings classified as A on the third and seventh day, Case 9, an A feeding on the third day and a B feeding on the fourth) Both showed relatively milder stimulations in the earlier period

The 7 pairs in Table X show relatively mild stimulations in all the early feedings and stronger ones in the later feedings with one exception

When a comparison of the same group was made by selecting instances of maternal responses to repeated failures to stimulate, the same differences were found Frustrations in early feedings were characterized, as in the cases described above, by a manner of stimulation more circumspect and controlled than in the later feedings<sup>1</sup>

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<sup>1</sup>The difference in stimulation during early and late feedings can be tested also by comparing their frequencies. The average number of stimulations for early 6 D and E feedings is 9 for the late 6 D and E feedings 16 when the number 6 was categorically applied to all instances of stimulations too rapid to count

TABLE X

COMPARISONS OF STIMULATIONS USED IN TWO FEEDINGS BY THE SAME MOTHER WHEN BOTH WERE FAILURES (D OR E) OR WHEN ONE WAS A FAILURE AND THE OTHER A SUCCESS (A AND B), ARRANGED ACCORDING TO POSTNATAL DAY

<i>Case No</i>	<i>Feed Class</i>	<i>Post-natal day</i>	<i>Stimulations Used in This Feeding, Not in Other</i>	<i>Feed Class</i>	<i>Post-natal Day</i>	<i>Stimulations Used in This Feeding, Not in Other</i>
9	A	3	Frequent patting of chin	E	8	Nipple insertion Frequent hard patting of back Frequent rolling of body
16	E	1	Bringing baby closer to breast, frequent jiggling of breast, one nipple insertion	A	6	No stimulations were used
18	E	2	Bringing baby closer to breast, movement of baby's hand	E	4	Manipulation of breast Frequent patting of back Frequent slapping of hand Patting head Rolling body Pushing cheek Squeezing arm Moving feet
20	E	1	Touching baby's lips with nipple Patting baby's chin	E	5	Bringing closer to breast Shaking body Rolling body Frequent slapping of hand
21	E	1	Bringing baby closer to breast Nipple insertion Brushing lips with nipple Patting back Patting feet Touching cheek Slapping back Rolling body (one instance)	B	4	Manipulation of breast Jiggling of breast Frequent shaking of body Pushing baby's chin
23	E	2	Bringing baby closer to breast Touching baby's lips with nipple Brushing baby's lips with nipple Moving of feet	A	4	Jiggling breast. One shaking of baby's body Shaking baby's arm
25	E	2	Frequent touching baby's lips with nipple Frequent patting baby's back Slapping of back Shaking of body Pushing of hand Patting of hand	A	6	Bringing baby closer to breast Jiggling breast Frequent nipple insertion

We may now add to our explanation of the patterns the fact that the mothers were more tender with their infants in the first 3 days of the neonatal period. How strongly they were influenced in this direction by the nurse rather than by their own feelings cannot be determined by the information available to us. The fact that the baby was first born or later born had apparently no significance in this regard. Stimulation was either relatively mild or absent in 14 of the 16 feedings that were given during the first 3 days, by 13 mothers in the group. Only 1 of the 13 mothers who gave early feedings used strong stimulations. Of these 13 mothers, 7 were primiparous, 6 multiparous.

The mother's way of stimulating a sucking response by comparing easy and difficult, early and late feedings, allows a measure of judgment about the mildness and vigor of the stimulations employed. The descriptions are in themselves an aid, for example, touching as compared with slapping, soft patting as compared with hard patting, etc. They do not lead to judgments as clear as those based on the observations of stimulations that become increasingly vigorous when the baby's sucking becomes slower and weaker.

## SECTION X

The vigor used by mothers in stimulating the baby to suck was studied by comparing their activities in feeding failures and feeding successes. This comparison indicated that nipple insertion, the preferred method in the former, was presumably a stronger stimulation than oscillation of the breast, the preferred method in the latter.

Another comparison was made of feedings early and late in the neonatal week. This study indicated that stimulations used by mothers early in the week were generally milder than those used in the later days of the week. The same contrast was noted in the stimulations that occurred after a succession of repeated failures in getting the baby to suck.

The experience of repeated failures to achieve response to stimulations occurred not only in those feedings in which the baby sucked hardly at all, but also in feedings of every variety. Even in feedings classified as most successful in terms of continuity of sucking time, some mothers experienced failure to initiate sucking after repeated efforts to do so towards the end of the period. Some mothers were apparently satisfied after the baby had sucked for 20 to 25 minutes of a half-hour period. A few persisted to the very end



and so were caught in the frustrating task of getting a sleeping and probably satiated infant to resume sucking.

Mothers who persisted in efforts which were unavailing offered an opportunity to differentiate stimulations in regard to forcefulness, since it was quite apparent that excepting first feedings, the strongest and roughest measures were employed in such instances.

The most frequent feeding problem was that of the drowsing infant whose response to the mother's stimulations gradually subsided in deep sleep. In resisting her efforts some infants were not merely passive. They resisted in an active way, pursing lips, shaking the head, even pushing the breast away.

Besides passive and active resistance on the part of the infant, a complicating factor in a few instances was the mother's experience of painful sensations during sucking activity. When the mother persisted in stimulating the sucking in spite of the baby's resistance and her own painful sensations, her problem was more difficult to discern. The infant's resistance was readily observed. The mother's experience of pain was not always observed directly though it could be inferred from other items of observation in the record.

When mothers persist—in spite of repeated failure to get sucking response, their frustration would presumably be enhanced when they have to contend with the infant's active resistance. When painful sensations are also experienced the feeling of frustration would presumably be intensified. Situations of this sort lend themselves particularly well to the study of maternal feeling besides the strength of the stimuli employed.

Certain responses of the infant which would tend to encourage the mother's persistence may be considered. When the baby makes no response at all, it seems easier to stop than when encouraging signs occur. These may be manifested as an occasional suck, mouthing the nipple with quick release of it, or even retaining the nipple in mouth without sucking. The sucking preceding the situation of failure is also a factor. The mother may be less persistent if 20 minutes of sucking preceded her difficulty in getting a response than 10 minutes, etc.

The mother who will serve as our first example (Case 7) was the only one whose stimulations of the baby during a period of repeated failure to get a sucking response were quite vigorous in the first few days. Her difficulty began after the baby, prompted by

numerous breast oscillations, had sucked continuously the first 10 minutes. The baby was brought in crying, seemed eager for the breast, started at once but her vigor in sucking diminished. After 10 minutes the baby released the nipple, and resisted its insertion, grunting and shaking her head. Thereupon the mother held the baby's head to prevent its resistant movement away from the nipple. The baby took the nipple in her mouth but released it immediately and shook her head in spite of the mother's restraining hand.

Now stimulations were stronger. The mother pushed the baby's chin downward, rolled her head side to side with a quicker movement, and finally succeeded in getting the nipple in the baby's mouth. The nipple was released again.

The mother was obviously annoyed by the baby's persistent refusal. Her voice became louder and louder as she repeated the words "come on, come on." She took hold of the baby's cheek and pushed it back and forth vigorously. The baby meanwhile released an arm from the blanket which had covered her, waved it awhile, then held it still, flexed at elbow, then rested her hand and fell asleep.

The mother shook the baby's body, but failed to wake up the baby. She then patted the baby hard, rolled her body again, brushed her nipple across baby's lips and got the nipple back in her mouth but the baby did not suck.

Twenty minutes of persistent stimulation had failed to produce a sucking response. Then the baby moved her head in a manner that indicated to the mother a searching for the breast ("now she's looking for it"). The baby sucked weakly for a while and then stopped. The mother was then distracted by someone who entered the ward. The baby sucked again, on and off, for several minutes at a time and then fell asleep.

The strong stimulations, judging by the time they were performed and the energy that went into them, were hard cupping of the head, pushing down the baby's chin, rolling the body, shaking it, jiggling the cheek hard, patting, also nipple insertion and nipple rubbing. Most of the activities enumerated were the only ones of their kind employed by the mother in the 3 feeding periods in which observations were made. The other feedings were relatively easy and successful; the stimulations were of a milder variety (breast jiggling, patting, touching), excepting frequent cheek jiggling and one instance of body shaking. The frequent cheek

jiggling was used at the end of a period after 25 minutes of continuous sucking had been achieved, in order to empty the breast and thereby, according to the mother, avoid the pain which would otherwise occur.

From the stimulations as described, it appears that patting, a mild type of stimulation, may be used also as a strong one. Stimulations of every variety may be used in a manner mild or strong. Certain kinds, however, were preferred when a mild or strong stimulation was called for. The material available in our records was used to find the kinds of stimulations typically selected in this manner. In the example cited in which strong stimulations were used in an early postnatal day, the "reinforcing" factors that were first considered in explaining the pattern were as follows: (1) a preliminary period of 10 minutes of continuous sucking effected by frequent though mild stimulation; (2) evidence of the infant's hunger through initial cry and immediate sucking; (3) a period in which baby remained awake yet did not suck; (4) active and frequent resistance; (5) partial response in the form of holding on to nipple though releasing it; (6) partial success (occasional sucks after periods of resistance). The factors give rise to a situation in which the mother's purpose was given frequent reinforcement by the baby's response (proof to the mother that her stimulations had produced results and continued having some effect) and by the challenge of active opposition.

Now let us consider the behavior of another mother when repeated stimulations were of no avail at any time throughout an early period (Case 18, second post-natal day). After seven minutes of fondling the baby who was quiet and awake but soon fell asleep, the mother inserted her nipple in the baby's mouth. There was no response. The mother brought the baby closer to her breast, rubbed her nipple across baby's lips, reinserted, and then when a response was not forthcoming, shook the baby gently. The stimulating activities were stopped after a brief period—2 minutes. They included only one typical of the stronger variety, though it was used in a mild way. Not one of the factors present in the previous case, each one of them readily perceived as an encouraging sign, was present.

The same mother's activities in a later feeding, previously described in section IV, may now be viewed as response to the infant's behavior. A feeding failure on the fourth postnatal day evoked a

number of stimulations of the type employed in Case 7, though different in sequence and mixture. They ran as follows: (1) light stroking of baby's head (and soft whispering "come on"); (2) nipple insertion; (3) pinching baby's arm (and the words clearly spoken "wake up"); (4) finger flicking of baby's hand, repeated frequently and performed with increasing energy; (5) body shaking (followed by a louder "wake up"). Stimulating activities had gone on at this point for 9 minutes since the beginning of the feeding period. The mother's stimulations continued in the form of (6) pinching baby's cheek; (7) nipple rubbing; (8) flicking baby's hand with increasing energy; (9) hard patting of baby's back; (10) resumption of hand flicking now performed vigorously and more rapidly (with repeated and more "wake up" and "come on"); (11) stronger and rapid flicking of baby's hand that went on for several minutes (and now in a loud voice, "come on,, I've been fooling with you for almost a half hour"); (12) shaking baby's feet; (13) flicking baby's hand and slapping back with less energy than (11). Stimulating behavior had gone on for 27 minutes when the mother stopped trying, said, "I'm tired of it," and began talking to a patient in the neighboring bed.

Now let us first consider the stimulation pattern. The numbers (1) to (5) enumerate a series of stimulations, starting with a very mild one and advancing in strength to a high point at (5) when a shaking activity was employed (stroking, inserting, pinching, flicking, shaking). The series was interrupted at this point when the mother took the nipple out of the baby's mouth, stimulated less strongly (6 and 7) and took time out for burping the baby. Thereafter, flicking of the hand became the mother's chief reliance as a method of stimulation. Actually, more time was spent using that method than all the others. After its prolonged use, when 26 minutes had elapsed the mother decided to do something else. She unwrapped the baby's blanket, shook its feet, then covered it and resumed her previous stimulation, though with less vigor and less speed.

Compared with Case 7, she left out action on the chin, also head rolling and body rolling. Like Case 7 she shook the cheek and the body, though less vigorously and frequently. The pattern of Case 18 was less consistent in the use of stronger stimulations. The two peaks that represented the strongest of the series of stimulations employed were each followed by a milder form of activity. In both

cases, evidence of mounting energy and impatience were at hand, but in Case 18, there was more restraint evidenced by the selection and vigor of the stimulations, also by the loudness of voice and the selection of words used in accompanying remarks.

Now, as in Case 7, let us consider the observations that may help to explain the persistency and the strength of the stimulations employed in Case 18. The persistency in the latter case judged by the time elapsing between first and last stimulation was the longest in the group. The observations that may be regarded as reinforcing factors are as follows: (1) immediate response of infant to nipple insertion—several sucks; (2) occasional sucks followed by early stimulation; (3) baby was awake at onset of feeding; first hand flicking began when baby closed its eyes; (4) baby's eyes opened now and then in response to strong stimulation; (5) baby retained the nipple in its mouth for long periods of time when it did not suck.

Periods of long retention of the nipples were especially frequent. This type of reinforcement gives every temptation to keep on stimulating since sucking appears to be nearly achieved. Occasional sucks, signs of wakening, and nipple retention were the reinforcing factors enumerated. In Case 7 the reinforcing factors appeared to be more impressive. There were more encouraging signs in regard to sucking response and periods of wakefulness. A hunger cry was present, also active opposition. The patterns of strong stimulations appear to vary in Cases 7 and 18 with the infant pattern of response. Of other items of observation that might have had some bearing on Case 18, the notation that the nipple was small and flat should be included. In this case the mother suffered painful and cracked nipples in the later feedings but nevertheless persisted in feeding by the breast to the eighth postnatal day. According to the criteria previously described she was the most maternal woman in the group.

In the table that follows (Table XI), the characteristic features of the baby's responses and the mothers' stimulations were recorded. Only such feedings were considered in which mothers persisted in stimulating steadily for at least 5 minutes, and in which the result of their efforts was minimal (zero to a few minutes of sucking). Listing of all the details in the sequences of response would be unwieldy, and have therefore been omitted. It would require reproducing entire sets of the "unit observations" which can

be read in the appendix. Feeding failures in which stimulations were given up after little or no effort will be considered in a later section.

TABLE XI

## INFANT BEHAVIOR AND PERSISTENT MATERNAL STIMULATIONS

Case No	Feeding Class	Post-natal Day	Infant's Response Characterized by	Stimulation Pattern	Duration of Continuous Stimulating Activity
7	C	2	Active resistance (head shaking) Occasional sucking	Head rolling Body shaking Body rolling Hard back pat	14 minutes
20	E	5	Active resistance (head shaking, compressing lips, pushing at breast) Occasional sucking	Strong nipple insertion Body rolling Hard hand slapping	21 minutes
9	E	8	Active resistance (head shaking, hands to mouth)	Nipple insertion Hard back pat Body rolling	20 minutes.
18	E	4	Nipple retention Eye opening Occasional sucks	Hand slapping Hard patting One body shake	26 minutes
23	E	2	Sleep One instance of active resistance in first few min (turned head away from breast)	Light patting of back and feet	7 minutes
25	E	2	Sleep One instance of active resistance (arms push at breast)	Mild to moderate back patting Nipple touching One gentle body shake	7 minutes
21	E	1	Sleep	Hand slapping Mild cheek jiggling Mild back patting One body roll	14 minutes

Unless so specified the stimulations included only those most frequently employed. Body rolling and shaking as a characteristic method of stimulation occurred only in those feedings in which active resistance on the part of the infant occurred more than once. The other stimulations employed in such feedings were also more forceful than usual. Detailed study of the sequences revealed also that the stimulation patterns were each consistent with the pattern of the infant's response, increasing in frequency and

strength as the infant gave evidence of response, especially active resistance.

Careful reading of the unit observations shows more clearly than Table XI how each instance of a strong stimulation like rolling or shaking the baby's body immediately followed a response by the infant. Each response acted apparently as an incentive and quite likely as a source of irritation when the baby, from the mother's point of view, persistently refused to respond and actively struggled against her. The mother's annoyances were verbalized quite freely. (Appendix, Chapter 3; Table IIb).

In regard to maternal attitude, mothers both high and low on a scale of maternal feelings displayed increasingly strong stimulations during feeding failures when the infant furnished incentives. Both also expressed their annoyance in words and facial expression. Certain variations in their manner of doing so, which were found to contain differential values will be considered in the sections that follow.

### SECTION XI

When mothers persisted in nursing the baby in spite of meager results, it was found that the number, strength and variety of the stimulations they employed were influenced by the baby's response. Certain activities of the baby appeared to encourage or provoke further efforts on their part. It was found that the patterns of stimulation in terms of persistency or roughness, under the conditions stated, were employed by mothers high and low on a scale of maternal feelings.

Careful scrutiny of the patterns revealed certain other differences, however, that might be readily attributed to maternal attitudes. They were seen in our cases in the sequence and gradations of mild and strong stimulations. Thus in the case (20) of a low scoring mother, stimulations began with hard hitting of the baby's hand instead of the usual gradation from mild to strong. In the case (18) of a high scoring mother the stimulation pattern in the second observation period rose to a high point of forcefulness on 2 occasions to be followed each time by mild stimulations. The explanation might well be a recoil after each apex of forceful stimulations because of conflicting feelings; one of determination, the other of tenderness.

Of the feeding failures or near failures there remain for consideration those in which the mother's efforts to stimulate the baby to

suck were given up in a few minutes or less, and those in which none were made. The efforts made by the mother referred to above (Case 18) were given up after 2 minutes in an earlier feeding. As described previously the baby slept throughout the period. Nipple insertion, nipple rubbing over lips and a gentle body shake completed the pattern of stimulation.

The infant's repeated resistance during a feeding period did not act as a spur to prolonged effort in Case 10 (third observation period, seventh postnatal day, feeding classification D), as it did in other cases. On the contrary it appeared that the infant's persistent compression of lips and movement of the head away from the nipple decided the issue. The mother had made several attempts to insert the nipple. She gave up in 2 minutes after a vain effort to wedge her nipple between tightly closed lips. She stopped trying during the time remaining (26 minutes), while the baby slept, though its eyes opened and closed several times. Such occasions usually acted as incentives to other mothers to make further efforts to get the baby to suckle excepting in the first few days.

There were five feedings in all classified as D and E in which the stimulations were continued for 2 minutes or less. Two of these have been considered. The remaining three were featured by absence of stimulations or a minimal number of them. Thus in Case 10 (fifth postnatal day) there was no attempt to stimulate in spite of such responses on the part of the baby as squealing, occasional sucks and nipple retention.

In Case 16 during a feeding on the second postnatal day the baby slept throughout. The mother made no effort to wake it up until 12 minutes had elapsed. Then she rolled its body gently twice. The baby slept on and the mother said, "He's just as indifferent as he can possibly be." She did not hold the baby in her arms during this feeding. When the baby did not respond to her stimulations, she turned away from it and read a newspaper.

In Case 20 during a feeding on the first postnatal day the stimulations consisted of several pats on the baby's chin and nipple insertion in the first few minutes of the period. After that no stimulations were employed in spite of a number of responses like sucking movements, sucks on 3 occasions, nipple retention, and movements of the hand.

The 3 cases in which minimal or no stimulation was employed, the only ones found in the 13 D and E feedings, were of low scoring



mothers and included the 2 least maternal of the breastfeeders. Their other feedings are compared below.

In Case 10, the first 2 feedings (C and D feedings) were featured by the mother's passivity. Her third feeding, described above, was featured by a quick cessation of efforts in the case of an actively resistant baby.


In Case 16, all 3 feedings (E, E and A) were featured by lack of stimulation. The third feeding was successful in regard to continuity of sucking (22 minutes); however, there were none of the usual stimulations during those periods in which the baby's sucking grew weaker and the pauses longer.

In Case 20, the first 2 feedings (E and C) were also featured by lack of stimulation. There was continuous stimulation during the third feeding in which the pattern was consistent with the baby's active resistance.

Of the examples given of persistent stimulation and paucity of stimulation during feeding failures and near failures we may add to the 3 cases described above, Case 21, in which there was persistent and forceful stimulation on a first postnatal day of a sleeping baby who gave none of the usual incentives. This was also the case of a mother whose score on maternal feelings was below the median.

In the stimulation patterns of these four cases, all low maternal, the clearest deviations from the others were revealed in terms of maternal activity and passivity. Marked activity during an early feeding in which also infant response was minimal, was the deviation in the one case. Inactivity to a marked degree during feedings early or late were the deviations found in the others.

## SECTION XII

When a mother tried to suckle a resistant baby, all the baby's responses which acted as incentives to further efforts on her part may be summarized as evidence of wakefulness, partial sucking behavior, and active opposition, besides complete sucking activity preliminary to the period of resistance. The signs in the baby which encouraged the mother's inference of wakefulness, or, at least, of possible arousal from sleep appeared to be a succession of opening and closing movements of eyelids, head and arm movements, grunting and whimpering, and crying sounds. Partial sucking behavior was seen in sucking movements of the lips, in  the nipple

and holding it in the mouth for varying periods of time, forward movements of the head, besides occasional sucks. Of the nipple holding movements, long retention without sucking appeared to be a stronger incentive than retention and quick release. Active opposition was seen in clamping of jaws, compression of lips, withdrawing and shaking the head, pushing at the breast. Such activity appeared as early as the second postnatal day in 3 of the infants in our group.

As an incentive the response of active resistance differed from the others. The other responses were encouraging signs to the mother to go on. They furnished proof that the baby was wakening and that sucking behavior might ensue. Active resistance was proof that the baby was still awake, but more significantly of an obstacle that had to be overcome before any success was possible. It was obviously the most provocative response of all, the source of all the roughest stimulating activities.

During successful feedings in which sucking was fairly continuous, continuity was maintained as long as possible, in most cases, by stimulations. The incentives to stimulate in these feedings appeared when sucking became weaker and slower, or stopped, and when drowsiness set in. In the A and B feedings sucking was typically vigorous the first 5 to 10 minutes and then gradually became weaker. In some cases stimulation was necessary only to keep the baby awake, since then sucking always followed. In a few the achievement of sucking continuity throughout the feeding period was effected by constant and vigorous stimulating activities.

In the previous section we considered the cases of feeding failures or near failures characterized by minimal stimulation or its absence. We may now consider successful and partially successful feedings (A, B, C) from the same point of view.

Four cases in these categories were characterized by absence of maternal response to all those instances of infant behavior ordinarily followed by stimulation. Two of them (Cases 16 and 20) were so characterized in regard to other feedings in the previous section.

In Case 16, during a third observation period on the sixth postnatal day sucking was fairly continuous for 22 minutes. The sucking was immediate and strong for 8 minutes after which the usual progressive diminution in vigor and frequency set in. At each stage of decrease in sucking activity including nipple retention and

closure of the eyes, 5 definite instances in all, no stimulation occurred.

In Case 20, during a second observation period on the third postnatal day, sucking continued though slow and weak during the first 15 minutes. During this period stimulation was lacking in all instances of increased pauses and nipple retention except once at the onset of feeding. During the remaining 15 minutes of the period, while the baby slept there were no stimulations in spite of nipple retention, mouth movements, and body stirring.

In view of similar behavior in other feedings, the passivity in Cases 16 and 20 was not surprising. However, in Case 24, that of a mother who scored above the median in maternal feelings, a similar record was found. Unlike the others it was inconsistent with her other feedings. In the first observation period there were more than 30 stimulations. In the second observation period on the fourth postnatal day only 1 stimulation was present. The feeding was classified as A. The baby's sucking was immediate, vigorous and rapid during the first 8 minutes and continued though progressively slower and weaker for 23 minutes to the end of the feeding period. On at least 10 occasions during increased pauses, eye closures, sucking movements and nipple release no stimulations occurred.

The fourth case of this type was also found in an observation period of a high scoring mother (Case 25, feeding classification B, fourth postnatal day). In at least 7 instances when a stimulation usually followed the baby's response only one was manifested. Her other 2 observation periods were quite different.

The fifth case (8), also that of a high scoring mother, contained no stimulations in the third observation period (sixth postnatal day). The baby apparently needed no stimulation. Nevertheless, the mother stimulated frequently under the same conditions of diminishing sucking, frequency and vigor in a previous feeding. Both feedings were classified as A.

The finding of mothers high and low on the scale of maternal feelings was confirmed also in A and B feedings in which stimulations were reduced in number.

One reason for differences in the frequency of stimulation when the baby's sucking was fairly continuous may be ascribed to differences in experience and personality that have to do primarily with the *job* of feeding. As long as the baby will continue to suck of its own initiative even after a long pause some mothers may be more

willing to wait than others, as they might in any other situation. In some feedings it was apparent also that stimulations were more frequent than necessary.

The explanation offered would be most appropriate to feedings in which a few stimulations in response to the baby's responses, described as incentives, were missing. However, the explanation cannot hold for feedings by a mother in which almost all the anticipated stimulations were absent in one feeding and present in full measure in another, and also in those feedings in which the same mother was consistently passive both in feeding failures and successes.

An obvious reason for the absence or paucity of stimulations in some cases was the experience of pain. The mother's reaction to painful sensations while nursing the baby was at times quite overt. In feedings so characterized withdrawal of the breast and withholding it from the hungry infant were activities that ran counter to maternal attitude. Discernment of the behavior that could be attributed to pain and to affection was attempted by analysis of the observations available in our records.

Before considering the subject of painful feedings we may now review all feedings in which stimulations were absent or nearly so.

Three were feedings classified as D or E. The mothers concerned were all low scoring on a scale of maternal feelings. All were consistently passive in at least one other feeding, Case 10 in 2 of 3; Case 16 in 3 of 3; Case 20 in 2 of 2.

Five were feedings classified as A, B and C. Two of these were included above (Cases 16 and 20). Three were feedings of high scoring mothers (Cases 24, 25, and 8). All stimulated frequently in at least 1 other feeding.

A glance at Table I will show that one more feeding should be considered. The second observation period of Case 14 reveals only one stimulation. It was not included because the mother was told to limit the sucking time to 10 minutes, then rest and nurse 10 minutes more. The advice to withdraw the breast involved avoidance of stimulation.

The 5 examples of A and B feedings characterized by absence of stimulations include all that were found in the 23 feedings so classified.

## SECTION XIII

In analyzing observations of maternal behavior during the feeding phase we began with a study of intrinsic feeding behavior: that is, behavior most clearly related to the task of feeding. In the search for other meanings of this behavior we utilized the methods described in Chapter 1.

As an illustration of the kind of observations of mother and baby in a feeding situation, from which our data were derived, a case record was cited and the problems of investigation noted.

The most frequent activities of mothers during breast feeding were employed to initiate and prolong the infant's sucking. Their numerous ways of bringing this about were catalogued and counted. The frequencies and varieties of such activities were tabulated for each feeding period; also the different parts of the body, mother's or baby's, on which they were applied.

A large variety of methods and marked differences in the frequency of their employment was found. Chapter 2 was concerned largely with attempts to define these differences and to learn their meaning.

Tables were constructed in which all the separate activities were listed in relation to the parts of the body on which they were performed. Counts of the varieties and frequencies for each observation period were tabulated, the most frequent method and body part employed by each mother, and also methods used exclusively in one period as compared with other periods.

The first clear differentiation was seen when a comparison was made of early and later feedings. The former contained a larger variety of stimulations, more instances of the milder forms and more instances in which the nipple was employed for stimulating activity.

An explanation was found when the stimulations were studied in relation to the amount of sucking that occurred in each feeding. Amount of sucking was measured only by the duration of time in which sucking was continuous. By classifying the feedings in this manner it appeared that the number and variety of stimulations per feeding increased as the sucking time decreased. This is another way of saying that the more the baby sucked the less the mother urged it to do so. The differences however were not as great as one would anticipate.

The reason for increased frequency and variety in the early feedings (i.e., the first 3 postnatal days) was the larger number of feeding failures or near failures (0 to 5 minutes of sucking time) among them. It was found also that the nipple stimulus was the one most frequently employed in D and E feedings (failures or near failures) in contrast with oscillations of the breast, the stimulus most frequently employed in A and B feedings (successes and near successes). Comparing stimulations in terms of strength and weakness, roughness and mildness, it appeared the the nipple was used as a stronger stimulus than breast oscillations.

When all stimulations in early and later feedings were compared for feedings of the same classification, it was found that in early feedings, milder stimulations were employed.

From these and other findings it was inferred that mothers were more delicate with their babies in the early days. With one exception this held true also when the mother was primiparous or multiparous; or high or low on a scale of maternal feelings.

The roughest stimulations occurred after repeated failure to initiate sucking. A comparison of maternal behavior during such frustrations revealed again the use of milder methods in the early feedings.

The study of stimulations that increased in vigor from mild to rough during repeated failure to initiate sucking facilitated the weighting of the stimulations employed. A number of them (e.g., body rolling and shaking) were used at the point of severest frustration and on no other occasion. The mounting energy, impatience, and expressions of annoyance appeared to be evidence of hostile feeling during the period of frustration. Nevertheless, mothers both high and low on a scale of maternal feelings displayed this kind of behavior.

A study of the baby's response in feedings characterized by frustration on the part of the mother revealed a close relationship. All the responses of the baby indicating arousal from sleep, for example, opening movements of eyelids, partial sucking, and clamping of jaws, acted as incentives to maternal stimulation. The number of responses on the part of the baby was quite consistent with the number and the tempo of stimulating activities on the part of the mother. The baby's responses were apparently regarded by the mother as encouraging signs. When these signs included active resistance, the latter seemed especially provocative and precipitated the roughest of all the stimulating activities.

Though mothers high and low on the scale of maternal feelings gave evidence of rough stimulation during frustration, certain differences occurred that were suggestive of differences in maternal attitude.

Such differences were seen in the sequences and gradations of the pattern of stimulations. In a high scoring mother there appeared to be a recoil after every rough stimulation to a mild one, also the absence of rough stimulations in the early phase of the frustrating experience.

The paucity of stimulations in feedings that contained incentives (minimal stimulation), and the presence of numerous stimulations in the absence of incentives (maximal stimulation), represented the clearest deviations of maternal behavior in D and E feedings. All the examples found were of mothers well below the median on the scale of maternal feelings.

Successful feedings characterized by absence or paucity of stimulations, and passivity, were also observed. In contrast to the D and E feedings they included mothers both high and low in maternal feeling.

The studies of infant response involved studies of the sucking patterns; variations and growth in sucking skill, details of sucking behavior and of resistance to the mother's stimulations.\*

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\*Breast configuration. A gross description was made of breasts, nipples and areolae of the 15 mothers observed while nursing. Six had breasts described as small or flat; 5, as large, 4, as average. Nipples were described as small or retracted in 5 cases; large or long, in 5. Areolae were described according to the size of coins as dollar size in 5 cases, half-dollar size in 6, quarter-size in 4.

The most deviant cases were Cases 18 and 20 whose nipples were described as small — flat, and very small, respectively.

## CHAPTER 3

# PAINFUL BREAST FEEDINGS

## SECTION I

THE mother's failure to stimulate the baby to suck was due obviously to pain in a number of cases. Such evidence was not always apparent. This was due to variations in the severity and frequency of pain, in the control of its expression, and in the difficulty of determining the kinds of behavior which were its manifestations.

The cases first selected for study were those in which verbal or vocal expressions of pain were present. Eight cases could be so considered (Cases 7, 8, 9, 10, 13, 14, 20, 24).

As an illustration of the observations of painful breast feedings, we have selected Case 8. During a feeding on the first postnatal day, her second one since the birth of the baby, the mother told the nurse that it hurt. She kept her body raised and rigid. In response to the nurse's admonitions she relaxed but tensed up again several times. Nevertheless she stimulated the baby's sucking repeatedly and did not withdraw the breast. After the period of tenseness she looked at the baby long and quietly; that is, without any special expression.

During the third observation period (fifth postnatal day), her nipples were very sore (the baby was to be put on a bottle right afterwards). As sucking began the mother had her left hand around the baby, her right hand on the breast. Because of pain the mother withdrew her breast after the first 5 minutes of sucking. She groaned and said, "Oh she's starting to bite again." The baby lay quietly at first and made searching movements with her mouth. Then she whimpered. The mother responded. She resumed the feeding. She said, "It hurts, but I don't like to hear her cry." Sucking continued for 10 minutes and then stopped. The mother withdrew the breast and then restored it again. The baby then regurgitated after which the mother no longer nursed. Instead she fondled the baby.



Evidence of pain was obvious in this feeding though apparently not prolonged, judging by facial expression and other behavior in a woman who freely exposed it. The feeding problem was complicated also by rapid milk flow. From a study of the sucking sequences we may infer that the painful sucks occurred in the early part of the feeding. The sucking was performed rapidly and vigorously, in a series of 20 sucks, with intervening pauses. The growing strength of the initial suck in each series probably reached a point after 5 minutes of sucking oppressive enough to elicit evidence of pain. Resumption of feeding after withdrawal of the breast was followed by sucking of less intensity.

During the first observation period the evidence of pain was one verbal expression and general muscular tension that continued throughout the feeding. During the third period there was a different pattern. General muscular tension was not present. Direct expression of pain was more in evidence however. There were both verbal and vocal expressions, and one instance of breast withdrawal because of pain. In spite of the absence of muscular tension it appears that the pain in the third period was more severe than in the first; at least, when measured by interference with the feeding. In the earlier period stimulations were more frequent and no instance of breast withdrawal occurred.

In the case cited above, we have manifestations of pain that may be regarded as direct and indirect. The former consists of its verbal or vocal manifestations; the latter of breast withdrawal and muscular tension.

Now let us consider another case (10) in which painful feedings were present. In the first observation period (first postnatal day) the mother groaned before the baby began to suck and continued doing so at intervals throughout the period. On one occasion while groaning she pressed her hand against the perineum. On another she kept a hand on her breast. She made no effort to stimulate the baby to suck, excepting once when she restored the nipple after the baby released it and tried forcing it into his mouth. She grimaced and groaned when the baby sucked. There was one notation of long looking at the baby, at the observer and then around the room. When the nurse took the baby at the end of the period the mother groaned again and closed her eyes.

During the second observation period (fifth postnatal day) there was no overt evidence of pain. There were no groans or grimaces.

## CHAPTER 3

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Verbal expressions of pain were sometimes simple statements, for example, "It hurts," spoken in an ordinary tone; sometimes exclamations very loud and intense, for example "Oh, oh, God it's terrible!"; most frequently, statements with a range of intensity between the two examples given, as "Oh, he's biting, Oh, he hurts," "There she goes again, oh stop!"

Of the 16 verbal expressions of pain, 7 referred to biting, to teeth and gums. The expression "it hurts" probably referred to biting pain in 3 of the 4 instances in which it was used. Two instances occurred during feedings in which the expression "Oh she's biting again" occurred and in which biting and sore nipples were observed (Case 8).

One instance occurred at the very beginning of a feeding. The mother said, "Ow you hurt you bad girl," (Case 7, II). Towards the end of the feeding the mother told the observer, "I want her to keep on because once she empties the breast it don't hurt no more." The reference was to discomfort arising from a congested breast. The complaint at the onset of the feeding however may have been due to nipple pain.

In the fourth instance the mother said after the baby had sucked several minutes, "You hurt but I like it." It was the only expression of pain in her record, and the one instance of verbalized pleasurable response to sucking in all our records (Case 9, I). From the other data we could not infer that its source was the nipple or the lactation or both.\*

Of the remaining four verbal expressions, three evidently referred to abdominal sensations. They occurred in a feeding of the same patient (Case 14, I). "O my stomach," was the expression in two instances, "There she goes again, oh stop!" was the expression in the third.

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\*The words "It hurts but I like it" may refer to sexual pleasure. They may refer to pain and to a denial of retaliatory impulses, a point discussed in sections III and IV. In favor of the latter is the absence of gazing or other forms of passivity which would presumably accompany the pleasurable sensation. In either case the sensation, whether of pain or pleasure may be regarded as transient. Sexual sensations during breast-feeding are difficult to discern observationally when there is evidence of passivity in the absence of direct and indirect evidence of pain (see Chapter 4). Since the pleasure is in response to the sucking the problem does not involve those feedings (v.s.) in which there was relatively little sucking.

Almost all the other features of the first feeding record, however, were present: absence of stimulation, this time without exception; a hand on her breast; absence of facial or vocal response to the baby; presence of gazing at baby and around the room; closed eyes. The second period was quite like the first excepting the groans and the pressure against the perineum.

During the third observation period (eight postnatal day) there was much more interest in the baby. The mother stimulated the baby to suck, fondled, talked to him, smiled. Similar to the other periods were the following notations: hand on breast; gazing at baby, observer and around the room; also this time one notation of "staring into space." In the third as in the first 2 periods there were no initial or end phase responses.

In the case cited there was overt evidence of pain in the first period, passivity and gazing. In the second period there was passivity and gazing but no overt evidence of pain. In the third period there was passivity and gazing, though much diminished and no overt evidence of pain.

In contrast with the first example (Case 8) the painful feeding in Case 10 contained no verbalizations of pain, no evidence of muscular tension or of breast withdrawal. The manifestations of pain were featured by vocalizations in the form of groans and marked passivity. The groans were not related directly, as far as the observations could reveal, to the action of the infant's mouth on the nipples. They were thought likely to be due, judging by the movement of the hand while groaning, and the lack of consonance of sucks and groans, to uterine contraction. Passivity was revealed by the visual behavior and the frequent failure to stimulate. The picture presented was of continued pain and lethargy in contrast with the previous sample of occasional sharp pain and tense activity.

To our list of subjects for later studies of behavior found to accompany painful feedings we may now add the study of passivity as manifested in visual wandering and gazing and absence of stimulation.

## SECTION II

Study of the records for observations of pain, or discomfort while nursing revealed 11 feedings (8 cases) in which pain or discomfort was expressed verbally or vocally (Table I).

Facial expressions of pain were recorded in two cases; grimacing after groaning, frowning after groaning and wincing preceding a vocal expression of pain. Facial expressions accompanying such expletives as "ouch" were probably not recorded, since, as we have found previously, the obvious accompaniments of an observed item of behavior are often missed.

The same remark may apply to general muscular activity. General body tension, rigidity, restlessness, shifting of feet, were recorded in 5 feedings (Cases 8, 13, 20, 24). In 2 cases (8, I; 13, II) such activity was unusually prominent. In both the painful feedings were due to nipple pain.

Evidence of pain manifested by withdrawal of the breast, in each case preceding or following a verbal or vocal expression of pain, occurred in 5 feedings. Such withdrawals were observed in the feedings that, judged by the other criteria (number and intensity of vocal and verbal expressions), were the most painful.

The frequency, intensity, duration and inclusiveness of the symptoms give a measure of severity. On that basis observation periods 7 II and 9 I represent minimal expressions of pain. They contain single direct verbalizations. They were not intense. There were no other manifestations of pain.

Maximal expression of pain is more difficult to judge. If we employ frequency and variety of manifestations as our criteria of severity then feeding period II of Case 24 was the most severe. If we employ vocalizations and passivity as our criteria then Cases 10, I and 14, I were severe. If breast withdrawal alone is used then Cases 13, III and 24,11 were the most severe.

More case studies of painful breast feedings should make possible a differentiation of cases characterized by vocal and verbal expressions of pain and of cases characterized by restless behavior and passivity.

The infant's sucking was observed as strong at some time during 9 of the eleven painful feedings. Strong and rapid sucking occurred in four of the six later postnatal feedings (observation periods II and III) and in 1 of the 5 early feedings (observation period I). The sucking in 4 of the five early periods was strong and slow. In 4 of the 5 feedings in which breast withdrawals occurred because of pain, the sucking was strong and fast and the feedings were classified as A (continuous sucking throughout period).

The fourth was a loud "Thank God!" when the nurse returned, and referred quite clearly to painful feeding, probably a combination of nipple and breast-congestion pain, judging by observations of biting, the mother's squeezing of the breast and later evidence of cracked nipples.

In 3 feedings there were no verbal expressions of pain. Non-verbal vocalizations, presumably of pain or discomfort, were generally the most frequent direct manifestations (30 instances). Fifteen were described as groans, 10 as grunts or sighs. In 8 unit observations the vocalizations "ouch, oh, ow, ugh" were recorded, 2 of them in combination with sighing. Vocalizations combined with verbal expressions, all of them in the form of "oh" were not counted separately.

The distress in feedings characterized by the most frequent number of groans, grunts and sighs (Cases 10, I; 14, 1; 20, III) very likely arose from sources other than painful nipple. In 2 of them (Cases 10 and 20) there was relatively little sucking. In all three there was no evidence of biting or of cracked or bleeding nipples. Two of the three gave no verbal expressions of pain.

From a study of the records for the purpose of finding a relationship between the expression of pain and its source it was thought likely that acute pain in the nipple caused by the infant's biting would more likely arouse verbal response, that pain caused by engorgement of the breast or abdominal sensations would more likely arouse non-verbal vocalization. This differentiation could not be made. A larger number of cases might do it. Its importance in relational behavior is apparent since it appears from our own material that sensations of pain in the nipple during breast feeding might more likely be attributed to the baby than sensations arising from uterine contraction or breast engorgement. The latter would seem more likely to be related to the general process of breast feeding. Of the 10 verbalizations of pain in which the baby was mentioned as the cause (Cases 7, 8, 9, 13), 9 had reference to the nipple, 1 to the abdomen (Case 14).

Of the vocalizations, grunting and sighing, since they are used as expressions of effort or of various states of feeling other than pain or physical discomfort offered a special problem. In our cases (Case 20 and 24), however, they occurred with other typical expletives of pain (ouch, oh, oh, oh, groans) besides other signs.

13

II No sucking first  
8 min  
III Strong and fast  
and painful  
II D

II (12) Does he have  
teeth? I'm sure he  
does, he bites Oh,  
he sure has gums

III (24) He's biting  
Oh, he hurts  
(25) Such sharp gums  
I can't stand it  
(27) He must have  
teeth I can't stand it  
Complained of his  
biting again

II (10) Grunted  
(19) Ow!

II Was very tense  
and held body rigid  
Continually moving  
feet

III Seemed very tense

II (19) Followed vocal Preceded vocal (9)

III (24) Followed verb

III (25) Followed verb

Nipples cracked and  
bleeding

14

I Strong and slow  
the first ten  
minutes

I A

I (4) There she goes  
again, oh stop!  
(6) Oh my stomach  
(10) Oh my stomach

I (6) Groaned and  
moaned, preceded  
(6) above Groaned  
again  
(8) Ow! Ow!  
(9) Groaned  
(10) Groaned  
(12) Groaned

20

III Brief sucking  
on three occasions  
(1 to 2 min )

III E

III (28) Sighed and  
said Ugh Grunted  
(30) Ugh!  
(33) Grunted  
(41) Groaned  
(49) Ohh, sighed  
(51) Sighed

III (41) Shifted  
around in bed,  
groaned

Breasts engorged

24

I No sucking first  
five minutes, then  
fast and strong  
II Strong and fast

I B

II A

II (41) Thank God!  
(When nurse re-  
turned)  
(42) Oh, God, it's  
terrible

I (12) Ouch!  
(20) Ouch! Oh!  
II (26) Ouch!  
(29) Ouch!  
(32) Groaned  
(33) Sighed  
(34) Grunted  
(39) Groaned  
(40) Sighed and  
groaned  
II (26) Winced  
(preceded vocal)  
(32) Frowned  
II Shifted feet

II Followed vocal  
(33)  
Followed vocal (40)

Cracked nipples  
(Baby put on bottle  
after II)

TABLE II

## PAINFUL BREAST FEEDINGS: IMMEDIATE SEQUENCES OF BEHAVIOR FOLLOWING EXPRESSIONS OF PAIN\*

<i>Case No.</i>	<i>Observation Unit</i>	<i>Pattern</i>
7	25 (Baby sucking fast and strong.) Mother looked at breast, said "Ow! you hurt you bad girl."	Pain—affection.
	26 Mother, "Now what are you thinking about.?"	
	29 Played with baby's hand, etc.	
8	3 (Baby sucking slow and strong.) Mother said it hurt her.	Pain—passivity—affection.
	4 Nurse told mother to relax. Mother looked at baby and at nurse. Put an arm around baby. (Notations of patting baby and gazing follow.)	
	23 (Baby sucking very strong and fast.) Mother groaned and said, "Oh, she's biting again." Took breast out of baby's mouth.	Pain—withdrawal—affection—restoring.
	24 Patted baby.	
	25 Restored breast.	
	26 Said, "It hurts, but I don't like to hear her cry."	Pain—withdrawal restoring.
	27 Removed breast and then restored it.	
9	6 (Baby sucking strong.) Mother, "You hurt, but I like it." Mother smiled at baby, then laughed.	Pain—affection.
10	7 (Interval sucking.) Notations of groans, grunts grimacing in five observation units followed by no response in four and by gazing (at baby, observer, and then around the room in one).	Pain—passivity (five instances).
	8	
	10	
	11	
13	10 (Baby sucked at intervals.) Mother grunted, shifted feet, pushed her nipple into baby's mouth, but kept as far from him as possible.	Pain—withdrawal—restoring.
	11 Nurse returned. Mother, "Well, he sucks sometimes but not much. Does he have teeth? I'm sure he does. He bites." Stopped inserting, moved farther away. Looked at him, then moved closer. Inserted nipple and looked at baby.	

\* Affection means display of affection to baby.

Withdrawal means withdrawing the breast from the baby.

Restoring means restoring the breast.

Passivity in this table refers to lack of visual contact or activity with baby, shown by looking away from the baby (gazing, staring) or talking to other patients.



## SECTION III

The influence of pain, or rather of its presumed manifestations on maternal behavior was studied also by noting the immediate sequences of behavior following its occurrence. Table II contains all of them. The case number and the number of each observation as it appears in the unit records are included. Each notation of pain and the observations that follow are abstracted in the simplest form in the adjoining column.

In this section we are not concerned with the particular manner in which pain or discomfort was manifested, simply in its presence. We assumed its presence when there was verbalization or vocalization of pain. When the vocalizations were of the type used commonly to express other sensations as well they were not included unless there was supporting evidence. There was no difficulty in this respect when the vocalization was not in a feeding context. Three such instances were found. A mother finished a feeding and talked to her baby. The baby sneezed. The mother said, "Ugh!" and made kissing sounds (Case 13, unit 44). The vocalization "ugh" was used in some instances to express pain or discomfort. It was clearly not so used in the example given. The expression "ugh" was used also as a sign of disgust. It occurred immediately after looking at breast milk that had leaked on the bed (Case 9, unit 20). A sigh (sometimes accompanied by stretching) at the end of a feeding in which there was no evidence of pain was also not included (Case 9, unit 14).

There was difficulty when vocalizations of the type associated with discomfort (especially grunting, sighing, groaning) occurred during feedings before the baby began to suck, and also during the sucking. The question arose particularly in Case 20. It will be considered later.

Such problems did not arise in feedings where sucking was continuous and the vocalizations were consistent with vigorous sucking activity.

TABLE II (Continued)

<i>Case No</i>	<i>Observation Unit</i>	<i>Pattern</i>
24	12 (After some attempts at stimulation baby started to suck ) Mother said "Ouch "	Pain—increased stimulations—affection
	13 (After about 10 sucks, baby stopped sucking but retained the nipple ) Mother juggled breast violently to urge baby to suck	
	14 Mother looked at baby, smiled, clicked her tongue and rearranged the baby's blanket	
	20 (Baby sucking ) Mother said, "Ouch! Oh!" and then smiled at baby	Pain—affection
	21 (Sucking with longer pauses ) Mother stimulated by juggling the breast	
	26 (Baby's sucking strong and fast ) Mother winced, said "Ouch!" and squeezed her breast at times	Pain—passivity
	27 Talked to other patients and looked at observer	
	32 (Baby sucking and resting ) Mother shifted her feet, stretched her fingers, groaned, looked at baby, frowned, looked around ward, talked to other patients	Pain—passivity—with-drawal—restoring
	33 Looked at baby, sighed, removed nipple	
	34 Put baby on shoulder, burped her, grunted	
	35 (Baby whimpered) Mother said, "Shut up" and put baby back to breast.	
	36 (Baby sucking slowly ) Mother did not stimulate, talked to others, stared into space	
	39 (Baby sucking ) Mother groaned	Pain—passivity—with-drawal (end of period)
	40 (Sucking very slow) Mother didn't stimulate Sighed and groaned	
	41 (Nurse returned) Mother said "Thank God!" Removed nipple	
	42 Pushed baby into nurses' arms Said, "Oh God! It's terrible " Put hand on her breast	

## BEHAVIORAL ANALYSIS

TABLE II (Continued)

Case No	Observation Unit	Pattern
	19 (Baby sucking) Mother said "Owl!" Removed breast She then said to baby as he whimpered, "Aw, I'm sorry I have no milk" She laughed and patted baby with her finger	Pain—withdrawal—affection
	24 (Baby sucking strong and fast) Mother, "Oh, he's biting! Oh, he hurts!" She withdrew nipple, then restored it and said, "Such sharp gums I can't stand it," but continued to nurse	Pain—withdrawal—restoring
	25 Later said, while nursing, "Boy, is he hungry" She laughed and said, "He must have teeth I can't stand it" She looked at baby, said she wished she had more milk, said "Come on, honey," and continued stimulation as sucking became weak	
14	6 (Sucking and resting) Mother said "go ahead" Then groaned and said "Oh my stomach!"	Pain—(no change in behavior related to pain)
	7 Continued nursing	
	8 Mother said "Owl Owl!" Removed breast	Pain—withdrawal—affection
	9 Mother, "Well, how are you?" Stroked baby's hair (Baby lay quietly) Mother covered breast, moved away from baby and groaned	Pain—withdrawal—passivity (end of period)
	10 Looked at baby now and then Looked around room	
	11 Moaned—made no response to baby who made sucking movements	
	12 As baby was taken away she groaned	
20	28 (Questionable breast pain in non-sucking period) A number of vocalizations, sighing, grunting, saying "Ugh," preceded the baby's first suck The mother's strongest stimulations were body rolling, after saying "Ugh" and the same after baby showed active resistance	Pain—stopped and then increased stimulations
	30	Pain—increase stim
	33	Pain—increase stim.
	37	
	41 (Brief periods of sucking) Vocalizations after baby started sucking (Baby sucked two or three times and stopped) Mother groaned, shook body hard	Pain—marked increase in stimulations.

of the pain on the forcefulness of the stimulation. The display of affection that followed appeared to be a kind of restitution as in other patterns.

In Case 20 the most forceful stimulation, shaking the baby hard, occurred in a similar situation. A display of affection did not follow (unit observation 41). The three previous vocalizations of pain were each followed by a strong stimulation, though no sucking had occurred. Their inclusion on the basis of pain due to congestion of the breast may be questioned. If they are excluded there remain 2 examples of pain followed apparently by excessive, or at least, re-enforced stimulation.<sup>1</sup>

Counting only the 2 instances in the pattern of pain—increased activity, we have 21 patterns in all. In these the immediate sequence following an expression of pain was affection, 3 times, withdrawal was followed by affection or restoring the breast 6 times in the next 1 or 2 sequences; passivity was so followed twice; increased activity, once. In all 21 patterns display of affection or restoring the breast occurred 13 times.

When we consider the influence of pain as a deterrent to the feeding, within the limits of time set by the patterns of sequences, we have only 4 patterns in the 21 in which the baby was prevented from sucking, and of these, 2 were at the end of the observation period. An observation should be added that during all the passivity patterns, the baby was sucking regardless of the mother's apparent self absorption.

There was no instance in which the mother, after manifesting sensations of pain, indicated her displeasure by an immediate action on the baby. In the 2 instances that may be regarded as relevant and clear, the activity came after the baby stopped sucking—a time interval, however of less than a minute. The activity, pre-

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<sup>1</sup>One example not included with the others remains. In Case 14 (unit observation 6) the mother initiated sucking activity by stimulation, groaned when the baby started sucking, and as the baby continued to suck said to the nurse, "Well, she's still taking it but I guess it's enough." The mother had been told, because of pain and sore nipples, to limit the feeding to 10 minutes. When she withdrew the nipple, she vocalized pain again and then displayed affection to the baby. Of the 2 pain sequences, the second was included in the pattern pain—withdrawal—affection. The first was not classified, though it may represent an instance in which the pain, though expressed at the time it occurred was not severe enough, or was sufficiently well tolerated to occasion no manifest difference in the sequence of behavior.

When the unit observations in the table and their abstracts are studied 4 patterns of immediate sequences of pain can be discerned—affection, withdrawal, passivity, increased activity on the baby.

The immediate display of affection following manifestation of pain occurred on 1 occasion in each of 3 cases (7, 9, 24). The display was in the form of fondling, or smiling or speech.

The manifestation of pain followed immediately by withdrawal of the nipple occurred on 7 occasions (Cases 8, 13, 14, 24). The first 3 items of the sequences were pain—withdrawal—affection (3); pain—withdrawal—restoring (3); pain—withdrawal—passivity (1). In 6 of the 7 instances noted, after the nipple was withdrawn the baby was taken back to the breast or given affection. In one instance (Case 14) after withdrawing the nipple and displaying affection the mother groaned again and paid no attention to the baby (passivity).

In all but 1 of the 10 instances cited above the baby received affection or resumption of feeding, after pain was manifest.

The sequence of pain-passivity occurred in nine instances (Cases 8, 10, 24). Five occurred in Case 10. In all the 5 instances passivity in the form of lack of interest in the baby and gazing, was the only type of response following pain. In the 1 instance in Case 8, after manifestation of pain, a period of gazing was followed by a display of affection for the baby. In the 3 instances in Case 24, passivity was followed by withdrawal of the breast in 2, withdrawal and then restoring in the third. In all 9 instances of pain followed immediately by passivity, affection to the baby or restoring followed in 2 (Cases 18 and 24).

Pain followed by increased activity, chiefly a rise in stimulating activity occurred on 5 occasions, 4 in Case 20, 1 in Case 24. This pattern is less clear-cut than the others, because each instance was complicated by the problem of stimulating the baby to suck. Consider Case 24, observation units 12, 13, and 14. The mother had the problem of arousing a sleeping infant and getting it to suck. When sucking was initiated the mother expressed pain (vocalization "ouch"). After about ten sucks the baby held the nipple in its mouth but stopped sucking it. The mother then jiggled her breast more rapidly and more forcefully than at any other time during the feeding. The baby resumed its sucking and the mother displayed affection. Our problem was to determine the influence

## SECTION IV

Whatever their feelings of anger or provocation during painful breast feedings, the mothers were sparing of their babies. There were few immediate reactions in the form of rough handling or other activity on the baby. In the 16 instances in which pain was followed by verbalizations, there was only one critical remark to the baby and that was followed by a display of affection (Case 7). When mothers withdrew the breast immediately following an expression of pain they restored it or displayed affection to the baby in every instance but one.

Comparisons of the mothers' behavior toward the baby during painful breast feedings and during frustrations resulting from failure to initiate sucking were first made by noting the sequences of the patterns enumerated in Table VII, Chapter 2. The table includes all those instances in which persistent stimulation of the baby occurred in spite of failures or near failure to attain sucking activity. The table was compiled for the purpose of studying the relationship of the infant's pattern of response and the mothers pattern of stimulation. To the latter, we need only add the observations that follow for the purpose of the present comparison.

Of the 7 stimulation patterns collected in Table VII, 4 may be characterized as persistent and strong (Cases 7, 9, 18, 20) and 3 as persistent and mild (Cases 21, 23, 25). In the former, once the stimulating activities began, there was no display of affection in any form. In 2 of the 4 there were clear direct verbalizations to the baby of annoyance and anger. The excessive stimulations, previously described, were regarded as activities re-enforced by frustration.

In Case 7 (first observation period) verbal responses contained some degree of hostile expression toward the baby (derogatory, threatening, scolding, or impatient). The immediate activities on the baby in the next sequence, and the number of the observation units, follow: Observation unit 9, "C'mon, c'mon, I'm afraid to spank you" (then in succession, chin pushing, quick head rolling, nipple insertion); 11, loudly, "C'mon, c'mon. Oh, she's getting me nervous now" (strong cheek jiggling); 13, angrily, "Oh, I don't know how to wake her up" (hard body patting, then body rolling); 18, "you bad girl, c'mon for God's sakes" (hand pushing). No display of affection followed.

sumably a stimulation for the purpose of encouraging further sucking, was obviously highly charged. In each case it was the strongest of all the stimulations employed during the feeding. In one case (24) it was followed immediately by a display of affection—regarding, smiling, vocal sounds, rearranging the baby's blanket. We may infer that in both instances the experience of pain was the explanation for the increase in the stimulating activity. The provocation of pain apparently led to an excessive stimulation as in situations of frustration due to repeated failure to get the baby to suck.

The only immediate evidence of provocation from pain was in a verbal response. In Case 7 the mother said "Ow! You hurt, you bad girl." Display of affection followed.

In 8 other verbalizations in which the words hurting or biting were used none contained a scolding remark or invective. In 6, the baby was referred to in the third person, for example, "Oh she's biting again," in 2, the words "it hurts," were used. In 1 instance the baby was referred to directly, "You hurt, but I like it."

An indirect critical verbalization, probably related to pain occurred after the third expression of it in Case 8. The mother said, "It hurts, but I don't like to hear her cry," withdrew the breast and then restored it. The baby sucked again and regurgitated some milk. The mother then said (unit observation 28) "See that! That aggravated me. I give her and give her and all she does is spit it up." The mother thereupon patted her baby, cuddled it and made kissing sounds.

An instance of a verbal response attributed to pain occurred also one step away from its manifestation (Case 24). The sequence was pain (groaning, etc.) pain and passivity (talking to other mothers, gazing)—pain and withdrawing the breast—burping the baby—verbal attack ("shut up")—restoring.

The expression "You hurt, but I like it," which was followed by display of affection may represent, as in the other patterns of pain-affection a denial of retaliatory feeling. It may presumably mean, or also mean, a pleasurable sensation.\*

Of the 21 patterns (8 cases) included in the table, consistent failure during a feeding to restore or display affection after the pain, occurred in 2 cases, 10 and 20. They are the cases of the 2 lowest ranking mothers of the group included in "painful breast feedings."

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\*See footnote, Section II.

As in the pain-sequence a display of affection followed the verbalization though the latter was directly related to the baby and rather "negative."

In Case 23 (first observation period, second postnatal day) after 3 mild stimulations, all unsuccessful, the mother smiled. Mild stimulations were followed by smiling at the baby, arranging and rearranging its blankets and gentle patting. They were repeated several times and interspersed with passive gazing. There was evidence of tension throughout the feeding in the form of feet shifting, drumming of fingers, shifting the pillows, and tense facial expressions. There were no verbalizations. The repeated patterns were stimulation—affection.

In the third Case 25 (first observation period, second postnatal day) of persistent and chiefly mild stimulations that failed to achieve their purpose there were no verbalizations of a derogatory or negative type. The remarks were "He's asleep," "He's so sleepy" or something similar on four occasions, followed by laughter or the kind of patting that may represent stimulation and affection.

Frustration in the sense of several unsuccessful attempts to initiate sucking after stimulation, was followed by a display of affection in three other instances: Case 15, unit 12, "Come on, don't be bad, you old sleepy-head," followed by strong poking of baby's cheeks; continued stimulation and repetition of "sleepy-head," with display of affection in the form of kissing sounds, in unit 17; Case 16, units 9 and 10, "Come on baby, you're very bad, come on now"; mother put her arm around baby; "You're a nasty thing, that's what you are"; smiled at baby (nipple insertion followed). In these instances, as compared with the pain sequences, the verbalizations were direct and negative, though display of affection occurred.

The verbalizations following pain and frustrations were compiled for Tables III A and B which follow. They do not include the words "come on" when the latter were the only verbal expressions during frustration.

The relative absence of impatient, derogatory or angry remarks to the baby in the group who suffered pain (Table III A) is clearly revealed. The gradual increase in the display of annoyance as seen in the group who were frustrated (Table III B) can readily be followed. A comparison can be made of the 3 mothers who were in both groups (Cases 7, 9, 24). A comparison can be made also



In Case 9 (third observation period), the verbalizations were fewer though more hostile. In observation unit 26, after five stimulations failed to elicit a sucking response the mother said, "What will I do when I get you home? You're going on a bottle sure as anything. Baby you're getting nastier and nastier" (then followed nipple insertion, very fast patting and body rolling); 29, "Come on, what are you doing, stopping for air?" (breast jiggling). No display of affection followed.

In Case 18 (second observation period) in spite of persistent, strong and unsuccessful stimulations for 30 minutes, only 1 of the 8 verbal responses can be regarded as indicating "negative" feeling towards the baby. The response gave evidence of annoyance or impatience: unit observation 30, "Come on. I've been fooling with you for about a half-hour." Her voice was louder than usual (faster and harder hitting of baby's hand followed, the most vigorous of all her stimulations). No display of affection followed.

In Case 20 (third observation period) a number of vocalizations may have expressed annoyance rather than pain. These occurred during persistent efforts and failure to stimulate (sighing, grunting, "Ugh!"). One vocalization, a groan, after the baby first began to suck, was included in the table of painful feedings. Vigorous and rough stimulations (body shaking) followed each vocalization. No display of affection followed.

Cases 7 and 9 offered the opportunity of comparing responses to pain and to the experience of failure after persistent efforts to stimulate, by the same mothers, in different feedings. In each case the expression of pain was followed by affection, unlike the sequence of feeding frustration.

In Table VII there were three examples of persistent though mild stimulations. These occurred on the first or second postnatal day and were consistent with the general finding of milder and more tender maternal response in that period.

In Case 21 (first observation period, first postnatal day) the sequence follows: observation unit 3, "You're making me mad. Come on." Smiled at baby, (nipple insertion, hand slapping); 4, "She won't wake up. Bad girl. Come on." (nipple insertion, one body roll, a gentle slap of hand and cheek); 8, "You're lazy. Come on, please." (slapping baby's hand, back, cheek). Smiling at baby, arranging baby's blankets, cuddling and gentle back patting followed.

TABLE III B

VERBALIZATIONS FOLLOWING FRUSTRATIONS (REPEATED FAILURE TO INITIATE  
BABY'S SUCKING DURING BREAST FEEDING)\*

Case No	Observation Period	Unit Observations	
7	I	9	C'mon, c'mon I'm afraid to spank you
		11	C'mon, c'mon Oh! she's getting me nervous now
			C'mon, c'mon
		14	I wish you would cry When you get home you'll be yelling your lungs out
		18	You bad girl C'mon for God's sakes!
9	III	21	Oh, are we going to start this all over again?
		26	What will I do when I get you home? You're going on a bottle sure as anything Baby you're getting nastier and nastier
		30	Come on! Don't fall asleep
15	II	12	Come on Oh! Don't be bad You old sleepyhead
		13	Come on
		14	Sleepyhead, come on Puss-puss, cootchie coo
		15	Sleepyhead
16	I	9	He just doesn't like it today Come on baby
			You're very bad Come on now
		10	You're a nasty thing That's what you are
18	I	31	He's just as indifferent as he can possibly be
	II	6	She's a stubborn one Don't want to nurse
		11	She sure don't take it
		13	C'mon little girl
		14	C'mon, wake up
		19	Wake up
		26	Wake up, wake up
21	I	27	C'mon I'm not going to let you sleep You'll lose weight and get sick Come on!
		30	Come on I've been fooling with you for almost a half hour
		32	I'm tired of it
24	I	3	You're making me mad Come on Come on
		4	She won't wake up Bad girl! Come on!
		8	You're lazy Come on Please!
25	I	3	Oh, you're in one of your sleepy moods now
			(Laughed) Hey come on Hey! Hey!
		4	All right now Come on, wake up Come on!
		9	You just want to sleep
		12	Wake up Wake up He's so sleepy (Laughed)
		14	You won't wake up Come on Wake up!

\*Frustration feedings not included because verbalizations were absent—Case 20, observation period III, Case 23, observation period I Frustration feedings included in this table, not in Table XI, Chapter 2—15, II, 16, I, 24, I The latter three were mild examples of frustration according to the criterion used in Table XI.

of the verbal response to frustrations during early and later feeding periods.

We may conclude from the comparisons made in situations of pain and frustration, that maternal response in the former was more controlled in verbal or muscular expression of annoyance or anger or other evidence of hostile feeling. Mothers apparently protected their babies well from feelings of retaliation when they suffered pain during a breast feeding. This was not the case when they experienced repeated failure to stimulate the baby to suck.

TABLE III A

## VERBALIZATIONS FOLLOWING PAIN DURING BREAST FEEDINGS

Case No	Observation Period	Unit Observations	
7	II	25, 26	Ow! you hurt, you bad girl Now what are you thinking about?
		40	I want her to keep on, because once she empties the breast it don't hurt no more
8	I	3	It hurts
	III	23	Oh! She's biting again
		26	It hurts but I don't like to hear her cry
9	I	6	You hurt, but I like it
13	II	11, 12	Does he have teeth? I'm sure he does He bites
		19, 20	(After vocal expression of pain and withdrawal) Aw, I'm sorry I have no milk
	III	24	Oh! He's biting Oh! He hurts
		25	Such sharp gums I can't stand it
		27	He must have teeth I can't stand it
14	I	4, 5	Oh! There she goes again Oh! Stop! Now don't go to sleep Go ahead dear That's a girl!
		6, 7	(After groaning) Oh my stomach! Well she's still taking it but I guess it's enough
		8, 9	(After vocal expression of pain) Well how are you?
		10	(After vocal expression of pain) Oh my stomach!
24	II	41, 42	(After vocal expression of pain, at end of period when nurse came) Thank God! Oh! Oh! God! It's terrible

hand. Nevertheless as such comparisons are made in more and more situations involving other aspects of the mother's relational behavior to the baby we will have further tests of the consistency of the differences of behavior that are presumably based on differences in maternal attitude.

Assuming that the differentiations made are at least valid for the mothers we have studied we may say that under conditions of frustration the breast feeding mothers displayed varying degrees of impatience and annoyance to the baby more in later than in earlier days of the postnatal week; and that in the expression of such feelings some of the more maternal were less likely than the others to employ derogatory remarks, or in other words, to give direct expression to hostile feelings, verbally or in other ways. During painful feedings, though more sparing of their babies in regard to rough handling and critical remarks, and also more expressive of affection and restoration of the breast after withdrawing it because of pain, some of the more maternal showed distinct differences in their manner of doing so than the others.

## SECTION V

In the search for attitudes in the verbalizations the only clear differentiation in Table IIIA appears in the responses listed for Case 7. It was the only one of the 16 verbalizations in which the baby was referred to directly and critically (Ow! You hurt, you bad girl"). It was followed as noted in the text by a display of affection. All 6 mothers in the group were in the median position or above according to their interview scores. The absence of cases below the median prevent possibly sharper contrasts in this situation.

In Table IIIB a clearer differentiation is possible since of the 8 mothers concerned, 4 used such appellations as bad girl or nasty, and 4 did not. A review of the table will show no relation between the number of words spoken and the particular expression referred to. Considering the fact that the feeding was during an early postnatal day the response in Case 16 was the most hostile. It was the response of the lowest ranking mother of the group. In Case 9, the remarks though of the same character were on a later postnatal day. The four mothers who called the baby bad or nasty (Cases 7, 9, 21, 16) ranked No. 6, 9.5, 11.5, and 16.5 respectively. The others (Cases 18, 15, 24, 25) ranked 1, 4, and 8, respectively. In Case 18, the mother had an unusually long and frustrating experience and made the largest number of remarks to the boy. She revealed evidence of annoyance as previously described (the remarks, "Come on, I've been fooling with you for about a half-hour, and I'm tired of it"). Not one of her remarks, however, contained a derogatory word. Even so she justified her persistence by explaining to the baby, "I'm not going to let you sleep. You'll lose weight and get sick."

In section III it was noted that consistent failure to restore the breast or display affection after withdrawing the breast occurred in Cases 10 and 20. They were the 2 lowest ranking mothers of the 8 listed in Table II.

On the other hand the only example of a sequence containing both affection and restoring occurred in the case (8) of the highest ranking mother of those listed in the table.

Though the particular manner of maternal response in feeding experiences involving frustration and pain appears to differentiate some of the more and the less maternal women in a striking way, the reader may be reminded that a small number of cases are at

Unit Observation	<i>Baby's Behavior and Mother's Response</i>
21	Baby's sucking was fast and strong. Mother looked at the baby, then around the room. (Sucking continued, though weaker and slower.)
25	Mother looked at the ceiling and then closed her eyes. She was restless and tense. Breathing irregular. She frowned and fussed with her hair.
26	Baby still sucking. <i>Mother started to withdraw the breast. She had the nipple halfway out.</i>
27	Baby cried. Mother said "sh-sh" and restored the breast.
30	Intervals between sucks grew longer. Mother's eyes were closed. Her hand was on the breast, the baby was sucking. She did not stimulate.
31	The nurse came and took the baby. While she did so, mother turned away from the baby and closed her eyes.

Withdrawal of the breast in this case was very likely due to pain. The facial expression, tenseness and restlessness immediately preceding occurred as in obvious cases. Less direct evidence was the visual behavior: wandering, staring, and closing the eyes.

### SECTION III

Placing the hand on the breast could not be discerned as evidence of pain or discomfort during lactation. It was observed in most of the feeding periods (in 24 of 37). It appeared at times to be a characteristic posture during phases of continued sucking. It was noted in only 2 of the 10 E feedings.

The observation of hand position is similar in its elusive quality to other instances previously described in which observations of details regarded as subsidiary functions of an act were lost. The position of the hand is often preparatory to manipulation of the breast. It may also be a resting posture. It may also represent a movement of pressure designed to allay discomfort. As such it is not readily identified unless accentuated and given focus by accompanying expressions of pain, or especially sought out by the observer. The particular functions served by the positions of the hand on the breast could not be differentiated. Other observations of hand manipulations referable to pain or discomfort however could be made. They were the more obvious movements of milking the breast and drumming the fingers on it.

In Case 24 (second observation period), the mother winced now and then, said "Ouch" and squeezed milk out of her breast. The baby's sucking was very rapid and vigorous. The feeding was

## CHAPTER 4

# TENSION, DISTRACTION, PASSIVITY

## SECTION I

**D**URING the investigation of painful feedings a variety of behavior was noted that occurred at the same time or in close sequence with vocal or verbal expressions of pain. While groaning, usually when the infant was sucking vigorously at the breast, some mothers were tense and restless. Some kept drumming their fingers on the breast, gazed at the ceiling or closed their eyes. Immediately after a groan or other expression of pain, some mothers milked the breast or withdrew the nipple from the baby's mouth, or initiated conversation with a neighboring patient. At such times, also, some mothers paid little attention to the baby when its sucking slowed down or stopped, failing to urge it on as they did on other occasions.

The observations noted above were revealed in various combinations and frequencies. Their relation to painful sensations was for the most part not difficult to discern. The same kinds of behavior occurred also however when vocal or verbal expressions of pain were absent, and contrariwise, they were absent in a number of instances when pain was present. An explanation of these findings in relation to severity and frequency of pain was made in the previous chapter. We have now to consider the behavior referred to within and without the context of pain.

## SECTION II

Withdrawal of the breast before or after a vocal or verbal expression of pain occurred in nine instances during five feedings. Withdrawal because of pain occurred also without such obvious evidence. In Case 11 (observation period III), the mother withdrew the breast while the baby was sucking. There was no verbal or vocal expression of pain at the time. The presence of pain was inferred however from the sequence of observations that follows:

TABLE I

## BREAST WITHDRAWALS AND OTHER ACTIVITIES ON THE BREAST PRESUMABLY RELATED TO PAIN

Case No. and Observation	Observation Unit	Observations
24, II	26	Baby started sucking fast and strong, mother winced now and then, and said "Ouch." Mother had kept a hand on the sucked breast. She milked her breast with the other hand.
	29	As baby sucked mother said "Ouch" several times and then milked her breast
	32	Baby sucking. Mother lifted hand off the sucked breast, stretched her fingers, groaned, then put her hand back on breast. Looked at baby, then around ward and talked to other patients.
	33	She looked again at the baby, sighed, withdrew the breast
	39	Baby sucking hard. Mother groaned.
	40	Sucking slower. Mother sighed
	41	and groaned and, as nurse entered room, said "Thank God" and withdrew the breast
25, II	19	As baby began sucking, slow and strong, mother had left hand on breast, lay quietly.
	20	looked at baby, then again at baby, then at observer, and then again at baby.
	21	Sucking continued, mother fussed with blankets, looked around the ward, listened to a conversation, and kept drumming her fingers on the breast
25, III	51	(Preceded by period of strong sucking, mother's visual wandering, failing to stimulate when sucking became slower.) As baby sucked, mother stroked his hair lightly and then put her hand back on the breast. She then
	52	drummed her fingers on the breast

characterized by vocal, verbal and facial expressions of pain, restless movements, talking to other patients and observer, visual wandering and gazing. Breast squeezing was readily related to painful sensations. It was an intimate part of the pain pattern.

In Case 25 (second observation period), as the baby began sucking, slow and strong, the mother put her hand on the breast,



TABLE I

## BREAST WITHDRAWALS AND OTHER ACTIVITIES ON THE BREAST PRESUMABLY RELATED TO PAIN

<i>Case No and Observa tion</i>	<i>Obser vation Unit</i>	<i>Observations</i>	
8, III	23	While baby was sucking mother groaned, said, "Oh, she's biting again," and then	withdrew the breast
	25	Baby whimpered, mother restored breast	
	26	Baby sucked strongly Mother said, "It hurts but I don't like to hear her cry"	
	27	She then	withdrew the breast
11, III	25	Baby's sucking became weaker and slower Mother looked at ceiling, closed her eyes Restless and tense Breathing irregular Frowned and fussed with her hair	
	26	Baby sucking Mother started to withdraw breast She had	nipple half way out
13, II	10	Baby sucked at intervals Mother grunted, shifted feet under covers inserted nipple Kept as far away from baby as possible	
	11	She complained of baby's biting	
	12	Stopped inserting the nipple	
	14	Restored the nipple	
	15	Looked at baby as he sucked and then	withdrew the breast
	18	Baby hunted for nipple Mother gave no help at first, then inserted the nipple	
13, III	19	Baby sucked Mother said, "Ow" and	withdrew the breast
	24	Baby started sucking immediately, strong and fast. Mother said, "Oh, he's biting, oh, he hurts" She	withdrew the breast
13, III	25	Mother restored the breast She complained about the biting She said, "Such sharp gums, I can't stand it. Oh, I forgot my mask" She	
14, I	4	Baby took nipple at once Sucking strong and slow Mother said, "Oh, there she goes again Oh stop"	withdrew the breast
	5	Sucking stopped Mother juggled breast Told baby to go on sucking Looked around room Talked with a patient.	
	6	Baby kept sucking Mother groaned, "Oh my stomach," and	
	7	and said "Ow! Ow!"	withdrew the breast
	8		

apparent also in feedings without obvious evidence of pain. They consisted of excessive movements of fingers (drumming or tapping) and feet (shifting or frequent moving), also fussing (shifting pillows, fussing with baby's blanket or mother's own hair), general restlessness and tension.

Excessive muscular activity of the type described was differentiated from excessive stimulation since the latter was essentially feeding behavior. The kinds of behavior considered in this chapter are not essential to the feeding process. They include excessive motility ("tension"), passivity, distraction, and visual behavior of the type described.

Table II contains the relevant data of excessive motility. The duration in time was not recorded. It may readily be inferred from the records, however, that such behavior continued during most of the period in 3 feedings (cases 9, III; 20, III; 23, I). They were all E feedings. Verbal and vocal expressions of pain were present in 6 of the 11 feedings assembled in Table II. Evidence of muscular "tension" (excluding facial movements) included excessive motility or tautness. Excessive motility was seen in frequent movements of limb or body, finger drumming or tapping and fussing movements. Rigidity or tautness was seen in arching the back and maintaining stiffness of posture.

The most frequent observations of excessive motility were made in a feeding failure (Case 23, I). The only observations of rigidity were made in two painful feedings (Cases 8, I; 13, II). A differentiation of the two kinds of behavior by correlating them with other factors, however, was not found.

Either rigidity or excessive motility might also represent an attitude, as of apprehension or hostility, to baby or to the feeding situation. In regard to maternal feelings, mothers both high and low on our scale showed this kind of behavior.

The signs of muscular tension found in the 11 feedings which comprise Table II were probably all related to pain or frustration. In 8 feedings, the evidence was clear. In the remaining 3 pain was inferred because of breast withdrawal and other signs (to be described later). Six of the eleven showed more sustained periods of tense and restless behavior than the others. They included feedings in which the baby sucked continuously (painful A feedings) or hardly at all (2 E feedings).

lay quietly, looked at the baby, then at the observer, and then glanced back and forth from one to the other. As the sucking went on, she fussed with the baby's blankets, looked around the ward, listened to a conversation going on, and kept drumming her fingers on the breast. As the baby's sucking slowed down, she did not stimulate it (unit observations 19 to 24). Similar behavior occurred in her third observation period (units 51 to 53). Passivity, distraction, fussing, and failure to stimulate were hardly evident during her first observation period. The inference of pain or discomfort during lactation based on these findings will be considered in later sections. Taken in combination with them, the specific item, drumming of fingers on the breast, was regarded as probable evidence of pain or discomfort.

Table I includes all excerpts from the records of unit observations of activities on the breast presumably related to pain. Of the 14 that were found, 10 were breast withdrawals, 2 were milking movements, and 2 were finger activities on the body of the breast. Number 11 contained direct verbal or vocal expressions of pain.

All the feedings tabulated contained periods of strong sucking. Six of the eight feedings were classified as A, 1 as B, and 1 as C. Breast withdrawals that occurred at the end of the period when the nurse was at the bed were not included, even if evidence of pain was present. In such instances mothers were presumably able to hold out till the end of the feeding period. By limiting the selection of such instances to the feeding phase alone, there was more assurance that the withdrawal of the breast was due to pain, uncomplicated by an end phase response.

Withdrawal may be thought possibly a more likely response to pain among the less maternal. In the 5 cases in which these notations were made, however, 3 were of mothers above the median of the group.

In 6 of the 8 feedings included in the table, visual wandering or staring occurred in the immediate sequences of behavior preceding or following breast withdrawal. Other apparent accompaniments of withdrawals were general tenseness, fussing movements, distraction, and failure to stimulate.

#### SECTION IV

In 6 of the painful feedings restlessness and other signs of excessive muscular activity were observed. Such findings were

## SECTION V

Following the manifestation of pain there occurred in a number of cases a kind of expressionless looking. This visual response described previously as gazing or staring occurred also during breast feeding periods that were free of any manifestation of pain.

When so engaged mothers looked at the baby without intentness or expression and, in the same manner, at nurse or observer. They would also pass their gaze slowly around the ward, stare at the ceiling, at the floor, or "into space," or look fixedly at the foot of the bed or at a part of their own body.

Breast feeding periods characterized by prolonged looking gave evidence also of diminished, in some instances even complete lack of interest in the baby. In the second observation period of Case 20, for example, the mother paid very little attention to her baby. She stared at the ceiling or into space most of the time. Now and then she looked at the baby. At one point she removed the nipple from his mouth. It was done with the passive manner of her gaze. When the baby's sucking slowed down and weakened she made no effort to stimulate it.

Measured by frequency of stimulation she acted quite differently during the next observation period. She was not passive at all. She stimulated the baby's sucking frequently (26 times). She revealed no evidence of gazing. She appeared quite interested in the baby. The observation units revealed a consistent picture of relational behavior.

## SECTION VI

The judges who scored the notations of the kind of visual behavior described rated them usually as zero or minus, which meant that they could not discern an attitude in it or that it represented an adverse attitude towards the baby. When notations of staring or gazing were followed by notations of failure to stimulate, their scores were predominantly minus.

Of the items of visual behavior, the notation, "the mother lay quietly and looked at the baby," gave the most difficulty. The difficulty was in determining the unrelatedness of the look in a social sense. When the look was accompanied by a smile or embrace, there was no difficulty in regarding it as evidence of relatedness and probably of positive feeling. The same judgment was often made in regard to notations of simply looking at the baby when other

TABLE II

## MUSCULAR RIGIDITY AND EXCESSIVE MUSCULAR ACTIVITY DURING BREAST FEEDING PERIODS

<i>Case No</i>	<i>Observation Period</i>	<i>Units</i>	<i>Observations</i>	<i>Comments</i>
8	I	3, 4	Strong sucking Mother told nurse it hurt Mother was tense, kept her body raised Nurse told her several times to relax	A first and painful feeding in a primi-para "Tension" in first 15 minutes
9	III	25	Shifted around Very tense	A frustration feeding
11	III	25	Mother was tense and restless She passed her hand through her hair several times and frowned	Staring at ceiling, eye closures, breast withdrawal
13	II	5, 13	Mother grunted, shifted her feet Mother appeared tense, kept her body rigid	Painful feeding Breast withdrawal because of pain
13	III	28	Mother seemed very tense Her laughter was "nervous and forced"	Painful feeding
20	III	27, 41	Shifted position Shifted around in bed and groaned	Painful feeding, also a frustration feeding
23	I	5	Blanket fussing	Gazing
		8	Shifted feet under covers	
		9	Shifted pillows, drummed fingers on sheet, tense, never still or relaxed	
24	I	14	Rearranged baby's blanket	Painful feeding and frustration
		15	Fussed with baby's blanket	Staring
		17	Covered baby with blanket	Distraction
24	II	31	Shifted feet under covers	Painful feeding, breast withdrawal, breast milking, distraction, staring
25	II	19	Smoothed baby's blanket	Visual wandering, distraction, passivity
		21	Fussed with baby's blanket, drummed fingers on her breast	
25	III	52	Finger tapping on breast	Visual wandering, passivity
		53	Smoothed baby's blanket	

None of the signs of muscular "tension" were present in the non-feeding visits. The latter included the case of a mother who revealed such evidence during a feeding period

TABLE III

OBSERVATIONS OF "LOOKING," STARING, GAZING, AND VISUAL WANDERING  
DURING THE FEEDING PHASE

Case Number and Period	Feed Class	Observation Units	Observations	Comments
7, I	C	0		Minimal pain
II	A	0		
III	A	0		
8, I	A	4	Looked at baby, then at nurse, then put arm around baby	Pain and tension
		8	Watched observer, then looked at baby	
		12	Lay quietly and looked at baby	
II	A	0		
III	A	0		Pain
9, I	A	12	Looked at baby, then around the room	Minimal Pain
II	B	0		
III	E	0		Tension
10, I	C	10	Looked at baby, then at ob- server, then around the room	Pain and passivity
II	D	18	Looked at baby, then around the room	Passivity
III	D	25	Looked at baby, then at ob- server, then around the room	Passivity
		34	Looked at baby, then stared into space	
11, II	B	0		
III	A	21	Looked at baby, then around the room	Passivity and tension
		25	Looked at ceiling, closed eyes, seemed tense and nervous.	
13, II	D	16	Mother lay and looked at baby	Pain and tension
III	B	0		Pain and tension
14, I	A	5	Looked around the room, talked with other patients	Pain and passivity
		10	Looked at baby now and then, looked around the room. Groaned	
II	A	15	Looked at baby, then around the room.	Passivity

notations of "looking and smiling" were present in the record of the same feeding period. When, however, notations of simply looking at the baby were followed immediately by notations of looking around the ward and staring at the ceiling, they were then more likely to be regarded as evidence of unrelatedness.

Accompanying smiles or gestures while the mother looked at the baby, regarded ordinarily as evidence of positive social response, were evaluated differently when they occurred in a context of general passivity. When, for example, a mother looked at the baby and toyed with his hand, gazed at the ceiling and into space, and failed to respond to its change of sucking behavior, the activity of toying with his hand may have been a kind of doodling, or at least a passive kind of behavior much less relational than the ordinary kind of direct looking.

The notations "looking at the baby" were also difficult to evaluate. As a measure of passivity or distraction other observations were found to be more suitable.

Before considering them we should mention another kind of visual behavior readily differentiated from the others; namely, inspection. Of the 10 notations found in this category, accompanying verbalization and other activities made the task of analyzing them relatively simple (see table in appendix). In Case 7, for example, the mother looked at the baby (observation unit 66) and said, "Gee, your eyes are little. Ugly thing. Ugly little chink." The mother then laughed, rocked the baby and cooed. In this instance, as in all the others, the manner of looking was not described. Presumably no differences in this regard were noteworthy. The looking, as in the case of feeding or dressing or burping the baby, was regarded as a necessary and subservient part of a functional pattern, in which the non-visual cues furnished the more useful data. Such data, however, were too scanty for our purpose. As stated in a previous chapter, they are best derived from observations made at the time of initial contact when the mother's interest in normality, sex, appearance and family resemblance of the newborn is so pronounced.

## SECTION VII

Observations of looking at someone without expression or conversation, gazing, staring, and visual wandering, during the feeding phase, were collected and tabulated. Feeding classifications and notations of pain, tension or passivity were then inserted.

TABLE III (Continued)

<i>Case Number and Period</i>	<i>Feed Class</i>	<i>Observ- ation Units</i>	<i>Observations</i>	<i>Comments</i>
23, I	E	4	Patted baby, smiled, looked around ward	Tension
		8	Stared at ceiling, looked at observer, then at baby	
		9	Looked at her own arm, drummed fingers on sheet	
		10	Looked around ward, then at baby	
	II	10	Smiled at baby, felt baby's clothes, then looked at ceiling	
		14	Looked at baby, at observer, then around ward	
		15	Lay quietly, stared at floor	
		21	Lay quietly, looked at baby	
		26	Stared at floor	
		26	Lay quietly	
24, I	B	17	Covered baby with blanket	Pain and tension
		18	Stared at ceiling	
	II	18	Looked around ward, talked with patients, looked at baby now and then	
		19	Stared at ceiling	
		27	Looked at observer, then around the ward	
		32	Stretched, groaned, looked at baby, then around the ward	
		33	Looked at baby	
		36	Sighed	
25, I	E	4	Stared into space, then looked at baby	
		4	Stared into space, then looked at baby	
	II	19	Lay quietly, looked at baby	Tension and passivity
		20	Looked at baby, at observer, then at baby	
		21	Looked around ward, listened to a conversation, then moved her fingers on breast.	
		22	Looked around ward, laughed at something said, looked at baby now and then	
		24	Put a hand on baby's foot, looked at baby, then around the ward	
		30	Looked at baby, then around the ward	
	III	36	Looked at baby, then around the ward, then at observer	Tension and passivity
		40	Looked at baby	
		45	Looked at baby	



## BEHAVIORAL ANALYSIS

TABLE III (Continued)

<i>Case Number and Period</i>	<i>Feed Class</i>	<i>Observation Units</i>	<i>Observations</i>	<i>Comments</i>
III	A	23	Looked around the room, listened to other patients talking	
		32	Looked around the room, said nothing but laughed with other patients	
15, II	B	0		
16, I	E	0		
II	E	0		
III	B	38	Looked around the room	Passivity
		44	Looked out of window	
18, I	E	1	Looked at baby, then around ward	
		2	Looked around ward, then at baby	
		7	Looked at baby and around ward	
		10	Looked around ward, then at nurse, then at baby	
II	E	26	Looked around ward	
20, I	E	6	Looked at baby	Passivity
		7	Looked at baby	
		9	Looked at baby, then around ward	
		13	Looked at baby	
II	C	17	Stared into space	Passivity
		18	Looked at baby now and then Stared into space	
		20	Looked at baby, stared into space	
		22	Stared at ceiling	
III	E	24	Stared at ceiling	
		0		Pain and tension
21, I	E	14	Looked around ward, then at baby Put her hand on baby's back and smiled	
II	B	15	Looked around ward, at baby, then around ward	
		26	Looked around ward, then at baby, then around ward	
		28	Smiled at baby, then stared at foot of bed	
		45	Looked at baby and into space	

TABLE IV

## CLASSIFICATION OF 62 UNIT OBSERVATIONS OF VISUAL BEHAVIOR\*

	<i>Frequency</i>
Looking at the baby	9
Looking at the baby and around room or ward	17
Looking at the baby and around room or ward and at own arm	1
Looking at the baby and staring into space	5
Looking at the baby and staring at floor or ceiling	1
Looking at the baby and at nurse or observer	3
Looking at the baby and at nurse or observer and around ward	5
Looking at the baby and at nurse or observer and staring at ceiling	1
Looking at nurse and around the ward	1
Staring at floor or ceiling	7
Staring into space	3
Staring at foot of bed	1
Looking around the room or ward	7
Looking out the window	1
	—
	62
All staring notations	18
All visual-wandering notations (looking around room or ward)	31

\*For explanation see text.

Self-consciousness as a source of the visual behavior described offered a special problem. The feeling of being looked at, especially while breast feeding, might readily affect the mother's manner of looking. One might start with the assumption that this problem would more likely occur in an early feeding and among primipara; also in the early part of the feeding. In Case 18, a primipara, observed on the second postnatal day, the mother smiled when the baby was brought by the nurse, stroked a finger over baby's forehead and face, looked at the baby and then around the room. She uncovered her breast but did not feed immediately. She continued stroking the baby, looking at her and around the ward. She spent 7 minutes doing so before inserting the nipple. Meanwhile, the baby fell asleep and the mother had difficulty getting her to nurse.

Study of Table III will impress the reader with the frequency of the visual items. They were present in 1 or more feeding periods of every case with the exception of Case 7. They occurred early or late in the first postnatal week and in feedings of every classification. They occurred also in the feedings of mothers both high and low on the scale of maternal feelings. The only significant relationship of the visual items with the factors noted under "Comments" was with passivity. In all 8 feedings in which passivity was noted, 1 or more of the visual items was present.\* The special meaning of passivity, defined in this connection as failure to respond to the baby under special conditions, will be considered in a later section.

Of all the visual items, "looking at the baby" was the most frequent. It was noted as a separate item or in combination with other items of visual behavior in 42 observation units. The total number of observation units containing the visual items listed was 62. They are arranged in Table IV.

The notations "looking at the baby" were not counted whenever the looking was accompanied by facial expression or gesture that could be considered part of the act, or when there were other indications of directed looking, e.g., looking at the baby followed by holding it, or removing the nipple. When it was noted that after looking at the baby and smiling, the mother then gazed into space, only the latter form of looking was included in the table. In terms of relatedness, staring (18 notations) was presumably farthest removed from the baby. Visual wandering (looking around room or ward), which included in most instances a glance also at the baby, was presumably not so far removed (30 notation). In the material available, no differentiation of the two kinds of looking could be made in relation to the baby's sucking characteristics, to the presence of obvious pain, to postnatal day, primiparity, or maternal attitude.

"Looking at the baby" while inspecting it or displaying affection has been considered. The error of assuming that quiet and expressionless looking during the feeding phase represents a form of unrelated looking was mitigated by the fact that whenever this notation was made, with two exceptions (Cases 13, II; 25, I), gazing, staring or visual wandering was also observed at some time during the feeding period.

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\*One or more visual items were present in 16 of the other 29 feedings.

## SECTION IX

In the sequences of behavior involving expressions of pain, certain items, presumably pain derivatives, were traced through the records. Excepting the item, breast withdrawal, they were found in other sequences in which pain was not evident.

Items listed under excessive muscular activity were found in 11 feedings, of which 5 contained no verbal or vocal expressions of pain. In 2 of the latter, the excessive activity was clearly related to repeated and frustrated efforts to initiate sucking in the infant.

Items of expressionless looking or staring, gazing, wandering, listed under visual behavior, were found in 23 feedings. In 15 there were no verbal or vocal expressions of pain. In 8 the items were integral parts of pain sequences. The gazing, staring, or wandering kind of visual behavior did not occur more frequently when the baby sucked over longer periods of time, or in earlier postnatal days, or in the case of mothers of first-born infants, or of mothers who were more maternal than the others. In several instances, it appeared likely that self-consciousness was a factor in eliciting the visual response.

Closing the eyes while nursing occurred during 4 feeding periods, all characterized by strong sucking. Passivity also occurred in 3 of them. In the fourth, eye-closure was part of a sequence involving a sensation related to lactation (1, strong sucking; 2, "he's putting me to sleep"; 3, eye closure).

The various items considered in this chapter may be regarded as activities that tend to diminish relational behavior. Breast withdrawals, gazing, visual wandering, eye-closures give evidence that the mother's attention is withdrawn from the baby. The same evidence is afforded when the mother remains passive and fails to aid or stimulate the baby's sucking when such aid or stimulation is typically performed.

## SECTION X

Immediately after vocal or verbal expression of pain, several mothers talked repeatedly. Judging by the sequence of behavior, talking was used to release tension by means of distraction, or possibly to divert an angry remark from the baby. In any case, the talk appeared in some instances to be an outcome of painful sensations. As an example, consider the second observation period of Case 24 in which the entire feeding phase was interspersed with

The mother looked at the baby again, then at nurse, and then around the ward. The visual behavior may have been evidence of self-consciousness due to exposure of the breast; possibly also to ignorance of feeding. In her wandering look the mother stopped a moment to watch another baby being fed. A feeding by the same mother observed 2 days later revealed none of the visual behavior described.

Another mother, observed during the second feeding of her first-born child (Case 8), showed similar visual behavior, possibly evidence also of self-consciousness. It was not present in subsequent feedings. Two other examples (Cases 14 and 25) were found. In all four the visual behavior occurred in the first 5 minutes of a feeding on the first or second postnatal day. The 4 were primipara.

When all observation units containing items of visual behavior were arranged according to postnatal day, however, no significant differences in frequency were found.

Closer observation might differentiate self-conscious looking from the other forms. It is possibly briefer and more "darting." Our observations contain other kinds of evidence, however, that help determine the "unrelatedness" of looking in a more definite way.

## SECTION VIII

In 4 feedings it was noted that the mother closed her eyes during the feeding phase. In 3 (Cases 10, II; 11, III; 20, I) eye closure was preceded or followed by visual wandering or gazing. In 1 case (13, III) the mother said, "He's putting me to sleep" and then closed her eyes.

The feedings of the first three were characterized by passivity, even lethargy, judging by the number of failures to stimulate and the general demeanor. The fourth case was different from the others in respect to visual behavior and failure to stimulate. There was no evidence of passivity. The feeding was characterized by hard sucking, a breast withdrawal, and complaints of pain in the first 20 minutes. The mother was nevertheless persistent in stimulating the infant to suck. After the period of pain, sucking continued with less vigor. It was at this stage that the remark was made. It was followed by continued stimulation to the end of the feeding phase, 35 minutes in all.

Eye closures that occurred in the end phase were not included in this section.

nurse or observer (in 57 observation units); next to other patients (in 23 observation units). In 1 case (Case 23) the mother initiated no conversation during her 2 feeding periods. All the others talked at least on one occasion during a feeding phase.

TABLE V

NUMBER OF OBSERVATION UNITS OF TALK INITIATED BY MOTHER DURING FEEDING PHASE

Case Number Observation Period and Feeding Classif.	Total Number of Units	Talk to Baby	To Nurse or Observer	To Other Patients
7, I, C	14	8	6	0
II, A	11	6	5	0
III, A	15	12	3	0
8, I, A	3	0	3	0
II, A	2	1	1	0
III, A	4	0	4	0
9, I, A	9	7	2	0
II, B	2	0	0	2
III, E	6	3	0	3
10, I, C	1	0	1	0
II, D	0	0	0	0
III, D	1	1	0	0
11, II, B	3	3	0	0
III, A	1	1	0	0
13, II, D	3	1	2	0
III, B	11	4	7	0
14, I, A	7	3	3	1
II, A	1	0	1	0
III, A	1	1	0	0
15, II, B	6	6	0	0
16, I, E	12	8	4	0
II, E	5	1	3	1
III, B	10	0	4	6
18, I, E	1	0	1	0
II, E	9	6	2	1
20, I, E	0	0	0	0
II, C	0	0	0	0
III, E	1	0	0	1
21, I, E	6	6	0	0
II, B	8	7	1	0
23, I, E	0	0	0	0
II, A	0	0	0	0
24, I, B	11	9	1	1
II, A	9	1	1	7
25, I, E	4	3	1	0
II, C	4	3	1	0
III, A	2	2	0	0
Totals	183	103	57	23

vocalizations of pain. The baby sucked throughout the period and, in spite of pain, the breast was not withdrawn except on one occasion, presumably for burping. The sequence of maternal behavior follows:

- (26) Winces, "Ouch," squeezes breast.
- (27) Talks to other patients, looks at observer and around ward.
- (28) Talks to other patients (8 minutes have passed).
- (29) "Ouch," squeezes breast, talks to other patients (11 minutes have passed).
- (30) Talks to other patients.
- (31) Talk continues, shifts feet (13 minutes have passed).
- (32) Groans, looks at baby, frowns, looks around ward, talks to other patients.
- (33) Looks at baby, sighs, withdraws breast.
- (34) Brings baby to shoulder and burps her, grunts.
- (35) Baby whimpers, mother says, "Shut up" and restores the breast.
- (36) Talks to other patients, stares into space, looks at baby now and then (16 minutes have passed).

Groans and sighs continue to end of period at 23 minutes.

Similar patterns occurred when vocal or verbal expressions of pain were absent. As in the case of other behavior attributed to painful sensations, they led also to the search for clues to the presence of pain when it was not openly expressed.

A count of all observation units containing talk initiated by the mother and arranged according to the person addressed was made (Table V). A unit observation was counted once when the words contained in it, regardless of their number, were directed to one person. It was counted 2 or 3 times when 2 or 3 different persons were spoken to separately. Nurse and observer were counted as the same person. Since the nurse was sometimes present, sometimes absent at the beginning of the feeding phase, and remarks made spontaneously to her sometimes continued with the observer after the nurse left, it was found simpler to consider them together. Replies of mothers to questions were not counted. The table includes only those verbalizations which they initiated.

Talking occurred in 32 of the 37 feeding periods. The amount varied from a single phrase to copious remarks (1 to 15 unit observations per feeding phase). The talk was directed most frequently to the baby (in 103 of 183 observation units); next to

We have learned so far that the total frequencies for each feeding phase showed nothing significant when checked against various factors, excepting in regard to passivity.

## SECTION XI

In the previous section it was noted that the frequencies of talk as measured by unit observations were least consistent in Cases 14 and 18. In each there was a jump from a single unit in one period to 7 or more in another. It was found in Case 14 that the period with the high frequency was one of painful feeding. In Case 18, the period with the high frequency was one of frustration. Table V shows further that the talk during the painful feeding in Case 14 was directed a bit more in the direction of people other than the baby (3 to 4). In Case 18 most of the talk was directed to the baby (6 to 3). The finding of a difference in the direction of talk in painful and in frustration feedings led to a search in other cases in which the contrast of frequencies, though not as great as the cases mentioned, occurred; for example, a contrast of 2 units of talk and a much larger number. Case 9 is such a case. The frequencies are 9, 2 and 6. The larger frequencies are in periods I and III; the former a painful, the latter a frustration feeding. The direction of talk in the painful one was largely to the baby, unlike Case 18. The direction of talk in the frustration feeding was evenly balanced between baby and others.

In Table VI, the relation of frequencies of talk to the persons involved were tabulated for frustration and painful feedings.

In 7 of the 8 frustration feedings, the talk was mostly or entirely to the baby. In 1 feeding (Case 9, III), the talk was evenly divided between baby and others.

In the 9 painful feedings, the talk went in the opposite direction in seven. The exceptions were Case 7, II in which the talk was fairly evenly divided (6 and 5), and Case 9, I (7 and 2). When we use as an index of pain the immediate sequence of an expression of pain and of breast withdrawal (see Table II, this chapter, and Table I, Chapter 3), all the feedings reveal more talk to others than to the baby (8, III; 13, II, III; 14, I; 24, II). The 2 feedings that are exceptions, as noted previously, were the 2 with minimal pain judged by the criteria employed (verbal expressions, no evidence vocal, facial, general muscular signs or breast withdrawal).

Using again the criteria enumerated including immediate pain-



According to the number of observation periods alone, mothers spoke to the baby in 24 of the 37 feeding phases, to nurse or observer in 22, to other patients in 9.

When the figures in the table were studied for frequency of talk, for its presence or absence, or for various combinations of both with the baby, nurse, observer or others, nothing significant was found. No relation was found with rank in terms of maternal feeling, with multiparity, postnatal day or feeding classification. No relation was found with pain, visual behavior, or muscular tension. As with the visual items, however, a significant relationship was found with passivity. The 8 feedings so described contained no units of talk in 3; 1 unit each in 3; 2 units in 1; and more than 2 in 1, (10, I, II, III; 11, III; 14, I; 20, I, II; 25, III). In each of these 8 cases, as compared with the others, talking was markedly reduced.

A case by case comparison for consistency revealed a wide array of patterns. Most consistent in the number of units of talk per feeding were Cases 7, 10, 20, 23 and 24. Of the 5, 3 were cases of mothers who were silent or spoke on a single occasion. In Case 7, the mother talked more than anyone else. She maintained the highest frequency of units in the 3 feedings observed (14, 11, 15). There was, however, an inconsistency in the frequencies when related to the baby and to nurse or observer. Most of the talk was to the baby in the third period. It was divided fairly evenly in the second. Similar variation in the direction of talk is seen also in Cases 16 and 24.

Frequencies were least consistent in Cases 14 and 18. In each a single unit of talk occurred in one period, 7 and 9 units, respectively, in another. In Case 13 there were 3 units in one period, 11 in another.

Our data can offer no clues to differences in the propensity to talk on the part of the mothers concerned, nor even of the influence of their particular relationship with the different personalities in contact with them. We have also no clues that might be derived from the personal lives of these mothers. We can, however, search for clues in the observations available that might explain why the same mother who said very little in one feeding said much more in another, and why there was a shift of conversation from the baby to others. We can search also for clues that might explain why under similar feeding difficulties some mothers talked while others said nothing.

remarks about pain, in contrast with frustration, were more frequently put in the third person. Thus, of the 14 remarks about pain found in eight feedings and listed in Table IIIa (Chapter 3), only 2 were in the second person, and both were followed by a mitigating remark (1, "Ow! You hurt, you bad girl. Now what are you thinking about?"; 2, "You hurt, but I like it").

Vocal expressions of pain were not included in the tabulations of talk. As in previous studies it was thought best to keep them separate, especially since there is no way of telling to whom these expressions are addressed, if they are, to anyone at all. A number of instances in which vocal and verbal expressions of pain followed each other revealed that the words, unlike the groans, judging by the turn of the head, were directed to a person. The words, therefore, were more likely to have social direction. However, the words that were involved with expressions of pain or frustration were, in most cases, the smaller part of all the words spoken during a feeding period.

## SECTION XII

We have considered the frequencies of talk as so many items in each feeding period, and as so many items directed to different persons. Now we may consider what the talk was about. For our present purpose, the talk to the baby and to the nurse or observer has been classified according to the following topics: feeding, stimulation, pain and miscellaneous. The method of classifying them will be seen in the examples that follow:

Mother withdrew the breast and said, "It comes too fast and she gets tired" (Case 7, unit 47). The talk was directed to nurse. It related to the feeding. All talk to baby or others that had to do in any way with the feeding but not with the stimulations or with the pain was classified separately under "feeding."

The mother said, "Wake up, baby" and patted her back (same period, unit 55). The talk was directed to the baby and was concerned with stimulation.

The baby began sucking. Mother said "it hurts me" (II, 8: I, 3). The remark was addressed to the nurse and was classified under "pain."

Mother asked the nurse why the baby was covered up. She said she wanted to "see her." The remark was classified as miscellaneous. The latter term was used to include all talk to or about the baby that was not concerned with stimulation, pain or other aspects of the feeding. Under miscellaneous were remarks about the baby's

TABLE VI

DIRECTION OF TALK DURING FEEDING PHASES CHARACTERIZED BY PAIN  
AND FRUSTRATION

## PAIN

*Number of Observation Units of Talk to*

<i>Case Number and Observation Period</i>	<i>Baby</i>	<i>Nurse or Observer</i>	<i>Other Patients</i>	<i>Total</i>
7, II	6	5	0	11
8, I	0	3	0	3
III	0	4	0	4
9, I	7	2	0	9
13, II	1	2	0	3
III	4	7	0	11
14, I	3	3	1	7
20, III	0	0	1	1
24, II	1	1	7	9

## PAIN AND FRUSTRATION

24, I	9	1	1	11
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## FRUSTRATION

7, I	8	6	0	14
9, III	3	0	3	6
15, II	6	0	0	6
16, I	8	4	0	12
18, II	6	2	1	9
21, I	6	0	0	6
25, I	3	1	0	4
14, III	1	0	0	1

withdrawal sequences, the most painful feedings were Cases 8, III; 13, III, and 24, II, in that order. The talk to baby as compared with others was respectively 0 to 4, 4 to 7, and 1 to 8.

Case 24 (period I) was placed separately because both pain and frustration were present (see Chapter 3, Table IIIb). The direction of the talk in that case, we may now assume, was more characteristic of frustration than of pain.

The finding that mothers were more likely to address their remarks directly to the baby during periods of frustration, in contrast with periods of pain, might have been anticipated from the findings in Chapters 2 and 3. There it was shown that mothers were much more likely to talk critically to the baby and display annoyance during frustration than during pain. It was shown also that

TABLE VII (Continued)

Case No. : 16 Units : Obs. Period:	18			20			21			23			24			25			Total
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
<i>Talk to Baby</i>	3	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	3	2	28
Topics: Feeding	4	0	0	0	6	0	6	2	0	0	0	0	7	0	0	3	0	0	57
Stim.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4
Pain	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Misc.																			
<i>Talk to Nurse or Observer</i>	4	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	26
Topics: Feeding	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Stim.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	10
Pain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	16
Misc.	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0				
<i>Talk to Other Patients</i>	0	1	6	0	1	0	0	1	0	0	0	0	1	7	0	0	0	0	23
Total	12	5	10	1	9	0	0	1	6	8	0	0	11	9	4	4	2		183

TABLE VII  
(Arrangement of Table V according to topics of conversation\*)

Case No. Units	7			8			9			10			11			13			14			15		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Obs. Period:	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Talk to Baby	1	2	4	0	0	0	1	0	0	0	0	0	2	0	0	0	1	0	2	0	1	0	0	0
Topics: Feeding	7	1	4	0	1	0	4	0	3	0	0	1	0	0	0	0	3	0	0	0	0	0	0	5
Stim.	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Pain	0	2	4	0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1
Misc.																								
Talk to Nurse or Observer	3	2	1	1	1	2	2	0	0	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0
Topics: Feeding	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stim.	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0
Pain	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
Misc.																								
Talk to Other Patients	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Total	14	11	15	3	2	4	9	2	6	1	0	1	3	1	3	11	7	1	1	1	1	1	1	6

\*For explanation, see text.

discussion of the classifications of feeding according to continuity of sucking time, it was noted that the manner in which the successful feedings were attained varied in the different cases. For some A feedings little stimulation was necessary. The babies sucked readily, and when stimulation was required little was necessary. For others more stimulation seemed necessary, and for others frustration periods were evident even in A feedings, particularly at the end of the feeding phase.

If we use the frequency of talk listed under stimulation as a measure of frustration or difficulty in the feedings, we can include other cases for comparison in which the frustration feedings were not limited to the feeding failures.

Now with this measure let us consider the painful feedings. There were 2 exceptions to the finding that the direction of talk was away from the baby. One of the exceptions (Case 7, II) had similar frequencies of talk to baby and to others (6 and 5). The feeding contained two items of talk related to stimulation. The second exception (Case 9, I) contained 4 units of talk (of a total of 9) related to stimulation. It was noted previously also that both exceptions were cases of minimal pain. Hence the two exceptions need no longer be regarded as such. Both were examples of feedings in which the problem of stimulation was present and apparently more significant than that of pain.

Now let us consider all three feeding periods of Case 7. For reasons advanced previously, the first period, classified as C, was considered a frustration feeding. The feeding contained 9 units of talk related to stimulation. The second, a feeding which was painful, contained 2 units of talk related to stimulation. The third, also an A feeding, contained 4 units of talk related to stimulation (ratio of talk to baby and talk to observers was 12 to 3).

The first observation period of Case 24, the one feeding previously classified under both pain and frustration, contained 7 units of talk related to stimulation. Ratio of talk to baby and to others was 9 to 2. The second period of the same case, also a painful feeding, contained no units of talk regarding stimulation. The ratio of talk to baby and to others was 1 to 8.

### SECTION XIII

A first attempt to correlate the frequency of talk on a single topic with total frequencies yielded nothing significant. That is, the

appearance ("Your eyes are little"), intelligence ("Every time I talk she stops, you'd think she understood"), behavior ("Hey, wotcha doing, making yourself more comfortable?"), various approving and affectionate remarks (You're so cute. Atta boy"), etc.

All the talk to baby, nurse or observer could be classified in 1 of the 4 designated groups, with a few exceptions. The mother's talk to other patients was not classified. It consisted almost entirely of "miscellaneous" topics and topics not related to the baby. Of the latter, which totalled 17, only 2 were directed to observer or nurse. With these exceptions, mothers' talk to nurse or observer was limited to topics concerning the baby and the nursing experience.

Table VII contains the data on frequency of talk divided according to the topics described, and also according to case number, observation period, and the person addressed. The number of each observation unit in which the talk was found is listed in a separate table in the appendix (Table VIIa).

A study of the total frequencies per topic to baby and to nurse or observer reveals some interesting differences. The talk to the baby was most frequently concerned with the baby's response to the mother's efforts to get it to suck. On this same topic, relatively little was said to the nurse (57 units compared with 5). The way the baby responded to urging seemed to be largely an affair of mother and baby alone, regardless of the constant presence during the feeding of the observer and the presence of both nurse and observer at the beginning of a number of the feeding phases.

The opposite was true of pain. Most of the talk about it was directed to nurse or observer (4 to baby, 10 to nurse or observer). However, the unit frequencies of talk about pain were relatively small (14 units in 183). Hence the previous finding of a change in the direction of talk from baby to others during painful feedings, was not due to the increased amount of talk to nurse or observer about pain. In the case of frustration feedings, the direction of talk to the baby as compared with talk to others was largely determined by the topic of stimulation, a topic closely related to the experience of frustration.

Talk about feeding other than its relation to pain or stimulation was shared fairly equally by baby and the nurse-observer pair. The same held true for miscellaneous topics.

The arrangement by topics gives us another measure of frustration, or at least of the difficulty in getting the baby to suck. In the

In the 8 feedings, however, in which pain was verbalized (1 or 2 units), the total frequencies per feeding were mostly high (two 3's, one 4, one 7, two 9's, and two 11's).

A test of these finding, namely the rise of the frequency of talk with pain and difficulty in feeding, was applied to the frequencies of the feedings of each case taken separately.

Consider the two feedings of Case 24 in which the total frequencies were high — 11 and 9. The first feeding, which had the larger frequency, was a frustration feeding (stimulation-talk units 7) and the talk was directed largely to the baby (ratio 9 to 2). The second was a painful feeding (stimulation-talk units 0) and the talk was largely to others (ratio 8 to 1).

When the test was applied in the same manner to all cases in which at least one feeding had a total of 2 or more units of talk (11 cases), the differences were explained in all cases except Case 11, in which the total frequencies were 3 and 1, and in Case 21 (frequencies 6 and 8). In the total of 26 feedings, all but 6 could be "explained" (see footnote).

It is worth noting also that in the 10 feedings in which no talk or a single item of talk occurred there was no evidence of pain <sup>1</sup>

Case No	Frequencies of Total Talk Per Period	Explanation by Frequency of Stimulation-Talk and Pain
7; 3 periods	14, 11, 12	See text.
8; 3 periods	3, 2, 4	Pain in first and third, none in second Stimulation talk frequencies are 0, 1, 0
9; 3 periods	9, 2, 6	Stimulation talk frequencies are 4, 0, 3 Pain also in first period
11; 2 periods	3, 1	Not explained
13; 2 periods	3, 11	Stimulation-talk frequencies 0, 3 Pain in both, more in second
16; 3 periods	12, 5, 10	Stimulation talk frequencies 4, 0, 0 Third feeding not explained
18; 2 periods	1, 9	Stimulation talk frequencies 0, 7
21; 2 periods	6, 8	Stimulation talk frequencies 6, 2 Fre- quency difference not explained
24; 2 periods	11, 9	Stimulation-talk frequencies 7, 0 Pain in both The first contains pain and frustration
25, 3 periods	4, 4, 2	Stimulation talk frequencies 3, 0 0 Second not explained

<sup>1</sup>When the findings are applied to the feedings of each case, we have the following:



total frequencies did not go up or down as the frequencies of talk about feeding or stimulation or any other topic went up or down. The frequencies of talk on the topic of stimulation showed, however, a relationship with the totals when the former were divided into 2 groups: those who talked not at all or hardly at all during a feeding (0 to 1), and those who talked twice or oftener. In 24 periods the units of talk concerning stimulation were 0 to 1.

Of the totals for each of these periods, 12 were 0 to 1, 9 were 2 to 5, and 3 were 6 or more. In 13 periods the units of talk concerning stimulation were 2 or more. Of the totals for each of these periods 12 were 6 or more. The remaining one was 4.

In Table VIIb, the difference between 0 or 1 units of stimulation talk and total units of talk shows a prevailing number of small differences when the units are 2 or more; there is a prevailing number of large differences showing that 2 or more units of stimulation talk is a good indication that there will be much talk generally.

TABLE VIIb

DIFFERENCES BETWEEN FREQUENCIES OF UNITS OF TALK  
RE STIMULATION AND TOTAL FREQUENCIES OF TALK\*

<i>Units of Talk re Stimulation</i>	<i>Differences with Total Frequencies</i>					
	<i>0 or 1</i>	<i>2 or 3</i>	<i>4 or 5</i>	<i>6 or 7</i>	<i>8 or 9</i>	<i>10 or 11</i>
0 or 1	8	5	3	1	1	1
2 or 3	1	1	0	1	2	0
4 or 5	1	0	1	0	2	1
6 or more	1	1	1	0	0	0
0 or 1	8	5	3	1	1	1
2 or more	3	2	1	2	5	2

\*The smaller the number of units per topic the larger the possible difference between it and the total number and vice versa. Since the range of the totals when there was any talk at all was 1 to 15, a zero under the topic of stimulation could differ from a total figure 1 to 15 units. The higher the number under the topic of stimulation the smaller its potential difference from the total. A comparison of such differences showed the reverse of chance expectation.

Total frequencies compared with frequencies of the topics "miscellaneous" and "feeding" were less differentiating in this respect.

example of this kind of behavior. During her second feeding phase she spent most of the time talking to observer and other patients. She made little effort to awaken or feed her baby. After 15 minutes passed by she reached for a newspaper and read it for the remainder of the period. Such evidence of distraction, though not as pronounced, was shown also, however, by mothers who scored above the median of the group.

Next in frequency of distracting conversation was a mother who scored above median (24, II). A study of the pattern, as described in section X, showed that the conversation with the neighboring patients and experience of pain were immediately sequential. It appeared that the distraction was a way of releasing tension. Cases 20 and 16 were the only mothers who read during the feeding phase.

Of the 13 periods in which distraction, as represented in Table VIII, was found, seven contained evidence of pain or frustration. Mothers who manifested distraction in the 4 remaining periods were Cases 7, 14, 16, and 25. Case 25 should probably be excepted since her feeding period was very likely a painful one (see Table I).

TABLE VIII

## DISTRACTION

*(Talk unrelated to baby; attending to conversation and activities of others; reading)*

Case No.	Observation Period	Observation Units	Distraction During Feeding Phase	Frequency
7	I	19	Attention to a doctor busy with patients.	1
	III	62, 63	Talk to observer about weather, etc.	2
9	III	31, 32	Talk to other patient about baby and about going home.	2
14	I	5	Talk with other patients.	1
	III	23	Listened to patients' conversation.	
		32	Laughed with others in response to a conversation.	2
16	II	26, 32	Read a newspaper (10 minutes).	2
	III	38,40,41,42, 42,43,44,46.	Much talk to others unrelated to baby.	8
20	III	50	Read a book toward end of feeding.	
24	II	27 - 31	Much talk to others (topics not noted).	5
25	I	13	Watched doctors in ward.	1
	II	22	Listened to nurse talking.	1
		29	Laughed at something said.	2

The direction of the talk as determined by pain or frustration has been considered previously. We are left with the problem of those feedings in which frustration and pain do not explain the differences noted, particularly Cases 11 and 18, the third feeding of Case 16, and the second feeding of Case 25. In Case 11, the second period contained a single unit of talk (the expression "sh-sh" was regarded as a word). The feeding was one of marked passivity, to be considered later. In Case 16, the frequency differences between the first and second feedings can be explained by the difference in stimulation talk, 4 and 0. The first was a frustration feeding. The third feeding presents the difficulty. It contains 10 units of talk and no talk at all in connection with frustration or pain. A review of the sequences in this case of the lowest scoring mother of the breast feeders in which there was much conversation, not related to the baby, would lead us to explain the unexpected frequency by her "negative" attitude.

In Case 21, the frequencies are 6 and 8, the stimulation-talk 6 and 2. A feasible explanation of this reverse trend may be derived by considering the number of stimulations and the success in feeding. The first was a frustration feeding. The baby slept throughout. There were 9 stimulation-activity units, all unsuccessful. The second was a successful feeding, but apparently required frequent stimulations, each followed by sucking. There were 19 stimulation-activity units. Under these conditions, a difficult but successful feeding, the talk was chiefly directed to the baby and to the subject of feeding other than the stimulation (e.g., "Aw, its coming too fast for you." "I've still got plenty for you.")

The second feeding of Case 25 would readily be explained on the assumption of pain in the absence of verbalization or vocalization (see Table I).

#### SECTION XIV

In the study of frequencies of talk, we were interested in evidence of distraction. When it was found that frequencies of talk were not differentiating for maternal attitude, a selection was then made of distractions as obvious as conversation on topics unrelated to the baby, reading during the feeding phase, or attending to the conversation or activities of other patients.

The mother who had the lowest score of the breast feeders (Case 16) on the scale of maternal feelings furnished the most striking

trasted with pain. Frustration was used to describe feedings in which there were numerous and unsuccessful attempts to get the baby to suck. The word "difficulty," when related to frustration, indicated partial evidence of the same type as measured by the number of units of talk in connection with stimulation. In the case of pain, there was no difficulty in getting the baby to suck.

The use of the word frustration could have been dispensed with by considering the feedings simply as presenting three kinds of difficulties, one of initiating the sucking; the second, of maintaining it; and the third, of pain.

## SECTION XVI

The word "passivity" is used in this section as a convenient label for failure to stimulate, restore the nipple, or respond to the baby with words, or in any other way, under conditions in which a response usually occurred. Mothers then appeared indifferent to the baby, an attitude in marked contrast to their behavior in other feedings (see especially Cases 18 and 25). In some cases, there were in immediate or close sequences pain, gazing, and failure to stimulate (Cases 10,I; 14, I; 24, II; see also Table 2, Chapter 3).

The word passivity is also applicable to such visual items as gazing and staring. When applied to visual behavior, it carries an inference that may or may not be true. When applied to failures of response, it indicates clearly that under conditions in which a response was usual, it did not take place.

During the feeding phase, the baby was typically activated by the mother when sucking slowed down or stopped, or when the nipple was held in the mouth without sucking it (nipple retention). The baby was typically given the breast when the nipple fell out of its mouth (nipple release), or when sucking movements were made. When the baby slept during the feeding phase, it was awakened and numerous kinds of stimulation were employed to initiate the sucking and keep it going as described in Chapter 2.

When the mother failed to stimulate the baby to suck, her failure to do so was not difficult to observe. Nevertheless, in counting such failures a number of problems arose. Mothers differed in their judgment of the waiting time required for a stimulating activity when the sucking slowed down, especially towards the end of the period when the question of terminating the feeding arose. It was thought best to err on the side of safety and not include in the

## SECTION XV

The mother's conversation, as measured by the number of unit observations in which it occurred, showed a wide variation in frequency; and in consistency, when the observation periods of the same mother were compared with each other. The same held true when the frequencies were considered in relation to the different persons addressed. In general, the baby was spoken to most frequently. Next came nurse or observer; and next, other patients. Of the various factors that were studied in relation to frequencies of talk, the only one found to be significant was "passivity." In the periods in which passivity was noted, the frequency of talk was reduced.

No significant difference was found in the frequency of talk in painful and in frustration feedings. However, when the direction of talk was considered a significant difference was found. In frustration feedings, the talk was directed largely to the baby; in painful feedings, it was directed largely to others.

When the subjects of the mother's conversation were classified, it was found that during frustration feedings her talk to the baby was concerned largely with stimulation — i.e., with efforts to get the baby to suck. During painful feedings, her talk concerning pain was directed largely to nurse, observer or others.

The topic that gave the closest relationship to total frequency of talk was "stimulation." When nothing or very little was said on that subject (frequency 0 or 1), little was said generally. When more was said on that topic, more was said on other topics. It was found also that when any unit of talk occurred on the topic of pain, there was also an increase in total frequency. Since both pain and difficulty in feeding appeared to facilitate speech, their presence or absence and their frequencies, as measured by units of talk, were tested against differences in the frequencies of talk for the different feedings of each mother. The test was found wanting in 2 of the 10 cases to which it could be validly applied.

The study revealed that pain and difficulty in getting the baby to suck enhanced the frequency of talk, and that passivity, defined as failure to respond to certain typical feeding behaviors of the baby, diminished it.

The reader may have difficulty in understanding the manner in which the words "difficulty" and "frustration" have been con-

incentives to maternal aid for the infant, failed to elicit a response in 53 instances. Most frequent were failures to respond to slowed sucking. They included 31 of the 53 failures and occurred once or more often in 15 of the 36 feedings. The ten mothers represented in this group were well distributed from high to low on the scale of maternal feelings (1, median, 4, above median, and 5, below).

The remaining 22 which represent failures to respond once or more often in the other categories included none of the 8 mothers above the median. They included 5 of the 7 others (1 median, Case 14, and 4 of the 5 below the median). The largest frequencies of failures per feeding occurred in the two least maternal (7 failures in the 3 feedings of Case 20, 7 failures in the 2 feedings of Case 16). Table X lists all failures of response arranged according to the infant's "incentives" and the mother's ranks according to scores derived from the interviews.

All the observation units in which the infant manifested the kind of behavior that was typically followed by maternal response are listed in Table IX. The mother's response, whenever it occurred, was listed once per observation unit. As described above, nipple release was always followed by a response. Next in frequency of sequence of response (about 9 out of 10, or better) were sleeping, crying and lack of response to a previous stimulation. Sleeping or drowsing at the beginning or during the feeding phase was followed by a response in 70 out of 76 instances. Crying or whimpering, under similar circumstances, was followed by a response in 13 out of 15 instances. The infant's lack of response to a previous stimulation included all instances in which the infant did not respond to immediate stimulation (i.e., within an observation unit) after releasing the nipple (12 instances) and after nipple retention (2 instances). Failure to respond under the conditions stated was followed by further stimulation in 13 out of 14 instances. When baby slept and the mother tried to waken him to nurse, all observation units of response were listed under sleep.

Slowed sucking was the most frequent form of behavior that elicited a maternal response (110 instances). Under slowed sucking were included all instances of slowing and weakening of the sucking down to cessation. Slowing down was seen as "interval" sucking and as slowing of individual sucks. The term interval sucking was used to indicate increasing duration of pause between series of sucks. For example, in Case 11, II, the baby's sucking became

count doubtful instances. A good measure of safety would have resulted in excluding the count of failures to stimulate when sucking slowed down, since almost all the doubtful instances were in that category.

Another solution of the problem could have been made by limiting the count to the number of responses alone on the assumption that failures to respond would result in the reduction of the total number of responses. In that case, the observation unit alone would be the measure, regardless of the number of stimulations within the unit, since our interest would then be focused on the condition of the baby in each unit and whether or not a response followed. In Case 24, for example, there were 13 observation units containing responses in the first period and 5 in the second. Unlike the first period, the second was a painful one, sufficiently painful to cause withdrawal of the breast. The failure to stimulate more sucking than occurred in that period might well be explained as avoidance of pain. The difference in the count of stimulations would cover this point without having to bother about the count of instances of failure to respond. In a number of cases however the measure of failure to stimulate would then be lost since the same or nearly the same number of stimulations occurred in different feedings in which failures to stimulate were frequent in some and absent in others.

Actually, both methods of counting were used. This was done for the purpose also of finding a relationship, if any existed, between failures to stimulate when stimulation seemed called for and the other factors considered in this chapter.

Instances in which failures to stimulate or to help the baby are recorded for each feeding in Table IX. It should be noted that failure to respond does not imply that an activity was necessary. It means simply that the mother usually did respond under the conditions described. The only conditions in the hospital situation in which it appeared certain that the mother's activity was necessary to initiate or continue the sucking, besides holding breast and baby in position for nursing, were those of the sleeping baby that needed awakening and the loss of the nipple that needed restoring.

## SECTION XVII

In Table IX there are 280 items of behavior on the part of the infant that elicited a nursing response from the mother in most instances. These items of behavior, which may be regarded as

slower and slower. The sucking consisted of series of 10 to 12 sucks followed by a pause. The pauses grew longer and the series became shorter. This gradual slowing down had been going on for seven minutes during which time the mother did not stimulate. She finally withdrew the nipple, then reinserted it and stimulated the sucking by rapid oscillation of her breast. As stated previously, doubtful instances are more likely to be found in this category. Instances in which the infant spontaneously increased the vigor of sucking after an apparent delay (of one observation unit) in stimulation were not counted. When gradual decrease in vigor of sucking and falling off to sleep occurred together, the former only was included in the table. Slowed sucking was followed by a response in 79 of 110 instances.

There were 25 instances in all in which it was noted that after obtaining a good purchase on the nipple the infant released it. In all feedings in which this occurred, restoring or stimulation followed. Nipple release occurred most frequently during feeding failures (D and E) and in the first few minutes of the more successful feedings excepting Case 25, III, in which successful continuity of sucking was secured for an infant apparently not avid for the breast by means of strong nipple insertions.

Nipple retention was so classified when it was obvious; otherwise it could be confused with slowed sucking, especially at the state of slowing down which precedes cessation. When the infant held the nipple in its mouth without sucking it, there was no problem in classifying it when sucking had not yet occurred. There was a problem in so classifying it when after a period of sucking it gradually slowed down and retained the nipple in the mouth during pauses. In that case, if there was spontaneous resumption of sucking activity, it was not counted. Nipple retention was followed by a response in 18 out of 26 instances, about the same proportion as in slowed sucking. There was a difference, however, in selectivity of failure to respond when measured against rank order of the mothers. Nipple retention was not followed by a response in the case only of mothers below the median interview scores (Cases 10, 14, 16, 20).

Mouthing movements in the form of sucking, opening and "hunting" appear to be a most obvious indication of sucking readiness. It failed to elicit a response from one mother (Case 20, a low



TABLE IX

FREQUENCY OF MATERNAL RESPONSE (INITIATING AND MAINTAINING THE SUCKING) TO INFANTILE BEHAVIOR  
DURING FEEDING PHASE\*

Infant's Behavior	Case No..		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total																
	Obs. Period		I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I		II															
			I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I		II															
Slow sucking (weak- ening, stopping)	+	2	5	4	1	2	0	5	0	2	0	1	0	3	3	1	3	2	1	5	5	1	1	0	7	79												
	-	0	1	0	1	0	0	0	0	0	2	0	1	1	0	0	3	0	0	4	0	0	4	0	3	31												
Sucking movements	+	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	6												
	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3												
Nipple retention	+	0	2	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	18												
	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8												
Nipple release	+	3	0	0	0	0	0	0	0	0	1	0	1	3	0	1	0	0	0	1	0	2	0	2	0	4	25											
	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Crying	+	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	1	0	0	0	13												
	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2												
Sleeping	+	1	1	2	1	1	0	0	5	0	0	1	0	0	0	3	1	11	9	7	0	1	5	0	1	0	70											
	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6												
Lack of response to prev. stimulation	+	3	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3	13												
	-	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1												
Other	+	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2												
	-	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3												
TOTAL		9	9	9	5	4	2	6	1	7	6	4	5	8	7	5	8	3	4	7	9	8	6	3	15	7	8	21	9	19	4	8	13	5	13	4	19	289

\*One response per observation unit. Response by + sign, absence of response by — sign.

occurred twice or oftener, there was not one instance of failure to respond.

Since the frequency of talk concerning stimulation, as measured by the number of observation units in which such talk occurred, rises with the mother's persistency in achieving a goal, the finding might be regarded as an obvious one, namely, that where there is much activity there is little passivity. In regard to the topics of conversation, however, it is only the topic of stimulation which shows this relationship clearly.\*

Frequency of Stimulations per Feeding (from Chap. 2, Table II)	No. of Feedings	Observation Units of Passivity				
		0	1	2	3	4 or more
0, 1, 2, 3	13	3	0	0	4	6
4 or more	14	17	5	2	0	0

A similar relationship was found between stimulation-talk and the visual items. Two or more observation units containing visual items of the gazing and wandering variety were found in each of 17 feedings. In 15 of them the frequency of talk concerning stimulation was zero or one respectively. Two or more observation units containing talk on the topic of stimulation were found in each of 12 feedings. In 10 of the 13, the frequency of the visual items was 0 to 1, respectively. It would seem therefore, that visual items show also reverse relationship with activity.\*

		Passivity (failure of response)		Visual items	
Stimulation-talk	0-1	0-1	2 or more	0-1	2 or more
	2 or more	11	13	9	15
		12	0	10	2

When there was a problem in getting the baby to suck, as measured by the frequency of talk about stimulation, gazing and

\*This is shown also when passivity is measured against stimulating activities.

maternal) in 2 instances of 8. Such movements were seen before sucking occurred and after breast withdrawals (6 instances).

The classification "other" included for completeness stimulations that seemed superfluous since there was no indication for it according to the conditions listed in the table (feedings 8, II and 9, II). It included also one instance in which the infant "tasted" the nipple, but didn't mouth it, and received no response (feeding 20, III). It included also an instance in which the nipple fell out of baby's mouth because the mother stopped holding the breast in position (11, III), and an instance in which the infant's respiration became gasping and the mother paid no attention to it (10, II).

The observation units that were selected for inclusion in Table IX are listed in the appendix to this chapter.

Not included in the Table IX were activities related to burping, sneezing or regurgitating. The table represents a count of all responses and failures to respond to the baby's behavior that typically evoked a feeding response.

The table should not be confused with the table of stimulations in Chapter 2. It is more inclusive. It includes, besides stimulations, all breast restoring activities (not counting the initial insertion of the nipple) and also talk to the baby under the conditions noted, even when unaccompanied by "stimulating" performance.

Activities of the nurse (usually at the beginning of an early feeding) were not counted. The first observation period of Case 16 was not included because the nurse helped the mother during most of the feeding phase.

In Table X which follows, the frequencies and varieties of passivity are arranged according to the rank order of each member of the breast feeding group. Other than "slowed sucking" passivity was not observed to follow a category of incentives in the upper two-thirds of the group.

When the number of failures to respond were compared with the other factors enumerated in this chapter, the closest relationship was found with the frequency of talk concerning stimulation. In the 36 feedings (Table IX), the number of instances of failure to respond was 2 or more respectively in 13. In each of these 13 feedings there was not one instance of talk concerning stimulation. On the other hand, in each of the 12 feedings in which such talk

failure to respond shows the value of treating them separately. In the previous chapter all the visual items were first thought to be evidence of passivity, a notion which was modified later. There remains the possibility that a number of visual items are related to body sensations, pleasurable or painful, though mild and hence not intense enough to inhibit response to the infant. Our data may be inadequate to reveal this more subtle discrimination. We do know, however, that visual items become more abundant as alertness, measured by goal direction in stimulating the baby to suck, is diminished.

### SECTION XVIII

In the preceding section the frequencies of a number of factors considered in this chapter were presented in Table II. It was found that a more meaningful differentiation could be made by separating the frequencies into 2 groups, one in which the factor was absent or represented by a single item, and the other in which the factor was represented by two or more items. A table containing the latter group was made (Table XII). For convenience, the items were represented by letters instead of numbers.

The reduction of all items in this manner resulted in the elimination of two feedings, classified as painful, because a single expression of pain, vocal or verbal, occurred in each (7, II, in which the second verbalization was questionable, and 9, I). When a single observation unit contained a description of behavior that included other units the item was included (one instance, "tension" in 8, III). In the count of visual items "eye closures" were included with the others.

A glance at the table reveals a good scattering. Only 3 of the 35 feedings contain no items. No feeding contains all seven items. Most of them (25) contain 2 or more. The most frequent item is "visual" (17); the least frequent is "frustration" (7).

Now the relation of the items to each other and to painful and frustration feedings can be seen more clearly.

TABLE X

MATERNAL PASSIVITY: RANK ORDER, CATEGORY OF INCENTIVE, AND  
FREQUENCY OF FAILURE TO RESPOND

Case No	Rank Order	Slowed Sucking	Sucking Move-ments	Nipple Reten-tion	Nipple Release	Crying	Sleep-ing	Lack of Re-sponse to Prev Stim.	Other
18	1	0 (in 2 feedings)	0	0	0	0	0	0	0
23	2	0 (in 2 feedings)	0	0	0	0	0	0	0
8	3	1 (in 3 feedings)	0	0	0	0	0	0	0
15	4	0 (in 1 feeding)	0	0	0	0	0	0	0
7	6	1 (in 3 feedings)	0	0	0	0	0	0	0
13	6	0 (in 2 feedings)	0	0	0	0	0	0	0
24	6	4 (in 3 feedings)	0	0	0	0	0	0	0
25	8	6 (in 3 feedings)	0	0	0	0	0	0	0
9	9 5	0 (in 3 feedings)	0	0	0	0	0	0	0
14	9 5	3 (in 3 feedings)	1	1	0	0	0	0	0
10	11 5	3 (in 3 feedings)	0	3	0	1	0	1	1
21	11 5	1 (in 2 feedings)	0	0	0	0	0	0	0
11	13 5	2 (in 2 feedings)	0	0	0	0	0	0	1
20	15	6 (in 3 feedings)	2	3	0	0	1	0	1
16	16	4 (in 2 feedings)	0	1	0	1	5	0	0

visual wandering were absent in almost all instances, and no failures of response occurred.

Frequencies of passivity and visual items showed no significant relationship with each other. That was to be expected since we had learned from previous studies that the visual items represented in the table, though found in immediate sequences of pain, occurred also in connection with other factors such as self-consciousness and fatigue. Lack of significance in the relationship of visual items and

TABLE XII

ITEMS OF TABLE XI WHEN ABSENCES OR SINGLE INSTANCES ARE ELIMINATED\*

7	I II III		F				D	S S S
8	I II III	P(W)		T T		V		
9	I II III		F	T			D	S S
10	I II III	P			I I	V V		
11	II III	(W)		T	I	V		
13	II III	P(W) P(W)		T T				S
14	I II III	P(W)			I	V V	D	
15	II		F					S
16	II III				I I	V V	D D	
18	I II		F					S
20	I II III	P		T	I I I	V V	D	S S
21	I II		F			V		
23	I II			T		V V		
24	I II	P P(W)	F	T T	I	V V	D	S S
25	I II III		F	T T	I I	V V	D	
		8	7	12	12	17	8	12

\*Tension (T), Passivity (I), Visual wandering or gazing (V), Distraction (D), Stimulation talk (S) which occurred in two or more observation units during a feeding period (F) represents frustration (F) was derived from Table VI, (T) was derived from Table II, (V) from Table III, (I) and (D) from Table XI (W) refers to breast withdrawal during feeding

TABLE XI

FREQUENCY (BY OBSERVATION UNITS) IN EACH FEEDING PERIOD OF PAIN, BREAST WITHDRAWALS, TENSION, PASSIVITY, VISUAL ITEMS, STIMULATION TALK AND DISTRACTION

Case No	Obs Period	Feeding Classif	Pain	Breast Withdrawal	Mus-cular Tension	Passivity	Visual	Eye Closure	Talk re Stim	Distractions
7	I	C	0	0	0	0	0	0	9	1
	II	A	1	0	0	1	0	0	2	0
	III	A	0	0	0	0	0	0	4	2
8	I	A	1	0	2	1	3	0	0	0
	II	A	0	0	0	0	0	0	1	0
	III	A	2	2	2	0	0	0	0	0
9	I	A	1	0	0	0	1	0	4	0
	II	B	0	0	0	0	0	0	0	0
	III	E	0	0	1	0	0	0	3	2
10	I	C	5	0	0	5	1	0	0	0
	II	D	0	0	0	3	1	1	0	0
	III	D	0	0	0	1	2	0	1	0
11	II	B	0	0	0	1	0	0	0	0
	III	A	0	1	1	2	2	1	0	0
13	II	D	3	2	2	0	1	0	0	0
	III	B	3	2	1	0	0	1	3	0
14	I	A	6	1	0	1	2	0	0	1
	II	A	0	0	0	3	1	0	0	0
	III	A	0	0	0	1	2	0	0	2
15	II	B	0	0	0	0	0	0	5	0
16	II	E	0	0	0	6	0	0	0	2
	III	B	0	0	0	5	2	0	0	8
18	I	E	0	0	0	0	4	0	0	0
	II	E	0	0	0	0	1	0	6	0
20	I	E	0	0	0	4	4	1	0	0
	II	C	0	0	0	7	5	0	0	0
	III	E	6	0	2	2	0	0	0	2
21	I	E	0	0	0	0	1	0	6	0
	II	B	0	0	0	1	4	0	2	0
23	I	E	0	0	3	0	4	0	0	0
	II	A	0	0	0	0	4	0	0	0
24	I	B	2	0	3	6	3	0	7	0
	II	A	9	2	1	4	4	0	0	5
25	I	E	0	0	0	0	1	0	3	1
	II	C	0	0	2	3	6	0	0	2
	III	A	0	0	2	3	3	0	0	0

relatively the smallest number of combinations with more than one other item (6 of 17). The combinations with more than one item are 8 out of 12 for tension, 5 out of 8 for distraction, and 6 out of 12 for passivity. The results are consistent with our previous finding that "unrelated looking" was found in a larger variety of situations than the other items, and were more difficult to delineate.

## SECTION XIX

Four feedings, discussed previously, were thought to be painful in the absence of vocal or verbal expression of pain. A point was placed on the table after each one of them. In 11, III, a breast withdrawal was accompanied by behavior appropriate to painful sensations though without verbalization. The four feedings all reveal tension and visual items. Three of them include passivity also, and one of them, like the most painful feeding (24, II) contains all the pain-accompanying items, tension, passivity, vision and distraction.

More data of the kind collected in Table XII are necessary to ensure the point to be made. When during breast feeding the mother gives evidence of tension, in combination with visual wandering or gazing, or distraction, or particularly with failure to help the infant to suck, there is a likelihood that she is experiencing painful sensations.\*

## SECTION XX

Assuming the experience of pain during a breast feeding, the pattern of behavior can now readily be envisaged, within the limits of our data. Painful sensations are followed or accompanied most frequently by muscular tension. If the pain is felt chiefly as a "biting" pain in the nipple there is a tendency to withdraw the breast. A conflict arises at this point. If it is solved by withdrawal,

\*Adding the 4 assumed painful feedings to the others, there are 12 in all. Of these 10 are associated with tension, 7 with visual items, 6 with passivity and 3 with distraction. All 12 are associated with 1 or more of the 4 items, tension, passivity, vision and distraction. When the 4 items are considered separately as possible correlates of pain, tension is found to be in combination with pain ten times in 12 (actually 11 in 12 if Case 8 I, which contained one observation unit of pain, is included). Passivity is in combination with pain 6 times in 12, distraction 3 times in 8; visual items 7 times in 17. On the other hand stimulation-talk is in combination with pain 1 in 12.



The 7 frustration feedings (F) are each on a line with stimulation-talk (S). This would be anticipated from previous studies. In 2 instances, they are combined with tension (T), and in 1 of the 2 also with pain. In 5 of the 7 frustration feedings all other items except stimulation-talk are absent.

In the frustration feedings, tension is the only item (other than stimulation-talk) that appears more than once. Passivity is the one item that does not appear at all in either "F" or "S" feedings. All 8 painful feedings contain 1 or more of the "pain-accompanying" findings (T, I, V, D). Four of these items (2 T's, 0 I, 1 V, and 1 D) are seen in the 7 frustration feedings; 15 (6 T's, 3 I's, 3 V's, 2 D's) in the 8 painful feedings.

Eliminating single instances as measured by the number of observation units in which they appeared has helped so far to sharpen the contrast of frustration and painful feedings. The contrast is in conformity with an explanation familiar to the reader. When a mother tries to wake up a sleeping baby, get it to suck and to keep on sucking in the time at her disposal, a situation indicated in the table by the letters "F" or "S," she is on the job, alert, and less likely to be passive or distracted. She is also less likely to thrash about, fuss with the pillows and stiffen her body.

Of the 8 painful feedings included in the table the most frequent combination with any other item was with tension (6). The most painful feeding, judging by the frequency of verbal and vocal expressions, was that of Case 24 II. It was the only painful feeding in which all the items, tension, inactivity, vision and distraction were combined. (It contained also such evidence of pain as facial expression — wincing and frowning — besides breast withdrawal and cracked nipples.)

More than half of the possible combinations of one item and any other occurred among the items that follow: frustration and stimulation-talk (7 of 7 possible combinations); pain and tension (6 of 8); tension and visual items (7 of 12); passivity and visual items (8 of 12); passivity and distraction (5 of 8). Tension is most frequently associated with pain and visual items; passivity with distraction and visual items.

Of the pain-accompanying items the visual are the only ones in the table found alone in more than one feeding. Five of them are not in combination with any other item. Visual items also contain

## APPENDIX

TABLE I  
INSPECTION (all Cases)

<i>Case No.</i>	<i>Observation Period</i>	<i>Unit</i>	<i>Observations</i>
7	III	66	"Gee, your eyes are little. Ugly thing Ugly little chunk." Mother laughed, rocked the baby, cooed.
9	II	20	Mother felt baby's hand through sleeve. "Now I can look at you." Then looked disgustedly at milk that had leaked on her. Patted the baby and cooed.
12	I	2	Mother smiled and said, "She looked so red when I saw her yesterday, but she's beautiful now." Mother then talked to other patients.
15	I	1	"Oh she's a redheaded one."
	II	8	"Isn't she cute. She looks like a monkey. Cootchie, cootchie."
16	I	2	Mother smiled and said, "What color are his eyes? Brown or blue?"
19	I	3	Mother looked at him, smiled, touched him softly, pulled blanket away, looked closely at his face, said, "I wish he'd open his eyes. I'd like to see what color they are," etc. Turned baby around.
		6	Mother looked at the baby, smiled, said "Come on and open your eyes so I can see them. Come on. Always sleeping." Mother looked at the baby's feet, picked one up, said "they're cute"
		12	"You're bald. Have to get you a toupee."
		15	Mother opened the blanket. Looked at baby's feet, said, "Come on and stretch your feet out." She then said repeatedly, "open your eyes."

another conflict arises because of the strong tendency to restore the breast. A conflict arises at this point. If it is solved by withdrawal, or restoration, or, indeed, at any moment while the pain is felt, such feelings are typically withheld from expression in the form of direct verbalization or rough activity (in marked contrast with frustration).

As painful sensations continue, whatever their source (nipple pain, breast congestion, uterine contraction), the mother becomes more absorbed by them and less aware of the baby. She may fail to respond to his need for help with the feeding, quite unlike her behavior on other occasions. She may fail to respond to every form of incentive on the part of the baby that previously captured her attention, excepting loss of the nipple. In case of the latter event she does not fail to respond. During her state of passivity she may look away from the baby, stare at the ceiling or let her gaze wander.

During painful feedings she may manifest either failure of response to the baby, or various forms of expressionless looking or both. At times, presumably to ease the tension caused by pain, she may try to distract herself by frequently turning her head away from the baby, join in conversation with others, or watch various activities going on about her.

TABLE V a (Continued)

	<i>I</i> (2 — 13)	<i>Case 10</i> <i>II</i> (17 — 22)	<i>III</i>
Baby			
feeding			
stimulation			30
pain			
misc			
Nurse or Observer			
feeding	4		
stimulation			
pain			
misc			
Others			
baby			
unrelated			
		<i>Case 11</i>	
		(5 — 15)	(20 — 31)
Baby			
feeding		9, 15	
stimulation			
pain			
misc		6	27
Nurse or Observer			
feeding			
stimulation			
pain			
misc			
unrelated			
		<i>Case 13</i>	
		(4 — 19)	(24 — 39)
Baby			
feeding			26
stimulation			28, 29, 31
pain			
misc		14	
Nurse or Observer			
feeding		11	27
stimulation			
pain		12	24, 25, 27
misc			33, 34, 37
unrelated			
		<i>Case 14</i>	
	(5 — 8)	(15 — 19)	
Baby			
feeding	5, 6		24
stimulation	1		
pain			
misc.			

TABLE V a

THE NUMBER OF THE OBSERVATION UNITS FOR EACH ITEM OF TALK  
(ASSEMBLED IN TABLE V)

	Case 7		
	<i>I</i>	<i>II</i>	<i>III</i>
	<i>Feeding Phase</i>		
	(3 — 21)	(24 — 42)	(48 — 70)
	<i>Observation Unit</i>		
Baby			
feeding	4	32, 41	54, 62, 68, 69
stimulation	5, 9, 10, 11, 14, 18, 21	35	
pain	0	25	
miscellaneous	0	26, 42	60, 61, 66, 67
Nurse or Observer			
feeding	16, 17, 20	37, 39	49
stimulation	11, 13	34	
pain		40	
misc	6	27	
topic not related to baby			62, 63
		Case 8	
	(2 — 13)	(16 — 20)	(22 — 29)
Baby			
feeding			
stimulation		18	
pain			
misc			
Nurse or Observer			
feeding	6	18	28, 29
stimulation			
pain	3		23, 26
misc.	7		
Others			
baby			
topics not related to baby			
		Case 9	
	(2 — 13)	(15 — 19)	(22 — 32)
Baby			
feeding	7		
stimulation	8, 9, 11, 12		26, 29, 30
Pain	6		
Misc	4		
Nurse or Observer			
feeding	12, 13		
stimulation			
pain			
misc			
Others			
baby		18, 19	25, 31, 32
unrelated			

TABLE V a (Continued)

	Case 20		
	I	II	III
	(1 — 12)	(15 — 25)	(28 — 50)
Others			
baby			28
		Case 21	
	(1 — 24)	(16 — 45)	
Baby			
feeding		17, 23, 24, 25, 44	
stimulation	2, 3, 4, 7, 8, 13	21, 41	
pain			
misc			
Nurse or Observer			
feeding		19	
stimulation			
pain			
misc			
Others			
baby			
		Case 24	
	I	II	
	(1 — 23)	(25 — 41)	
Baby			
feeding	6, 7		
stimulation	1, 3, 4, 8, 9, 21, 23		
pain		35	
misc			
Nurse or Observer			
feeding	11		
stimulation			
pain		41	
misc			
Others			
baby	18		
unrelated		27, 28, 29, 30, 31, 32, 36	
		Case 25	
	(1 — 15)	(17 — 29)	
Baby			
feeding		18, 27, 28	50, 56
stimulation	7, 12, 14		
pain			
misc			
Nurse or Observer			
feeding		25	
stimulation			
pain			
misc	5		

## BEHAVIORAL ANALYSIS

TABLE V a (Continued)

<i>Case 14 (Continued)</i>			
	<i>I</i>	<i>II</i>	<i>III</i>
Nurse or Observer			
feeding	7	14	
stimulation			
pain	6		
misc	3		
Others	5		
<i>Case 15</i>			
(7 — 16)			
Baby			
feeding			
stimulation		12, 13, 14, 15, 16	
pain			
misc		8	
Nurse or Observer			
feeding			
stimulation			
pain			
misc			
<i>Case 16</i>			
	(4 — 23)	(27 — 33)	(37 — 45)
Baby			
feeding	5, 9, 10		
stimulation	12, 13, 16, 18		
pain			
misc	20	28	
Nurse or Observer			
feeding	5, 9, 15, 22		37
stimulation			
pain			
misc		29, 31, 33	38, 42, 44
Others			
baby			
unrelated		29	38, 40, 41, 42, 43, 45
<i>Case 18</i>			
	(3 — 6)	(12 — 33)	
Baby			
feeding			
stimulation		13, 14, 19, 26, 27, 30	
pain			
misc			
Nurse or Observer			
feeding		33	
stimulation	6	32	
pain			
misc			
Others			
baby		32	

TABLE IX<sub>a</sub>OBSERVATION UNITS SELECTED FOR TABLE IX SHOWING INFANT'S BEHAVIOR  
AND MOTHER'S FEEDING RESPONSE

<i>Case No</i>	<i>Observation Period</i>	<i>Observation Units</i>	<i>Total</i>
7	I	5, 7, 8, 9, 11, 12, 13, 15, 18	9
	II	28, 31, 32, 34, 35, 36, 37, 38, 39	9
	III	50, 53, 55, 56, 58, 59, 60, 64, 65	9
8	I	6, 9, 10, 11, 12	5
	II	17, 15, 19, 20	4
	III	24, 25	2
9	I	5, 8, 9, 10, 11, 12	6
	II	17	1
	III	23, 24, 25, 26, 27, 28, 29, 30	8
10	I	5, 6, 7, 9, 10, 12	6
	II	18, 19, 20, 21	4
	III	26, 28, 29, 30, 31	5
11	II	7, 8, 9, 10, 11, 12, 13, 14	8
	III	22, 23, 24, 25, 27, 28, 29	7
13	II	7, 9, 10, 15, 18	5
	III	28, 29, 31, 34, 35, 36, 37, 38	8
14	I	5, 6, 11	3
	II	15, 16, 17, 18	4
	III	24, 26, 27, 28, 29, 30, 31	7
15	II	8, 9, 10, 11, 12, 13, 14, 15, 16	9
16	II	26, 27, 29, 30, 31, 32, 33, 34	8
	III	39, 40, 41, 42, 43, 45	6
18	I	3, 4, 5	3
	II	14, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	
20	I	2, 3, 5, 7, 9, 10, 11	7
	II	16, 17, 18, 19, 20, 21, 22, 24	8
	III	27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48	21
23	I	1, 2, 4, 5	4
	II	13, 16, 17, 18, 20, 24, 25, 26	8
24	I	2, 3, 4, 5, 9, 10, 11, 13, 15, 16, 18, 19, 21	13
	II	28, 29, 32, 25, 36	4
25	I	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15	13
	II	20, 23, 24, 28	4
	III	33, 34, 35, 36, 37, 38, 40, 43, 44, 46, 47, 48, 49, 50, 51, 52, 54, 56, 57	19



TABLE VII b

UNITS OF TALK ARRANGED ACCORDING TO TOPICS

<i>Stimulation</i>	<i>Miscellaneous and Others</i>	<i>Feeding</i>	<i>Pain</i>	<i>Total Frequency</i>
4	6	5	0	15
9	1	4	0	14
4	1	7	0	12
2	3	4	2	11
3	3	3	2	11
7	1	3	0	11
0	9	1	0	10
4	1	3	1	9
7	1	1	0	9
0	7	0	2	9
2	0	6	0	8
0	2	3	2	7
3	3	0	0	6
5	1	0	0	6
6	0	0	0	6
0	5	0	0	5
0	0	2	2	4
3	1	0	0	4
0	0	4	0	4
0	1	1	1	3
0	1	2	0	3
0	1	1	1	3
1	0	1	0	2
0	2	0	0	2
0	0	2	0	2
0	0	2	0	2
0	0	1	0	1
1	0	0	0	1
0	1	0	0	1
0	0	1	0	1
0	0	1	0	1
1	0	0	0	1
0	1	0	0	1

Now from our previous finding that most of the E feedings occurred on the first 3 postnatal days and most of the A feedings on the fourth and later days, also that mothers were less persistent and forceful in stimulating the baby to suck in the early days, we would anticipate that when the nurse returned she would be more likely to find the baby at the breast the later the postnatal day. Actually when the nurse returned the baby was not at the breast in three-fourths of the feedings during the first and second days, somewhat less during the third and fourth days, in about half during the fifth and sixth days and in one-fifth of the feedings during the seventh and eighth days (Table IV). This consistent trend in the anticipated direction is rather impressive and unexpected because, as we have learned, there are factors in the individual cases that are unique and would be bound to offset a trend in any one of the small subdivisions of our group. To determine consistency for each subdivision on the basis of a single factor would require a larger number of records. Definite trends however in conformity with previous findings do appear when we contrast groups at the ends of our scales; e.g., A and E feedings.

Multiparity is another example. Of the 15 nursing mothers, 7 were multipara; 8, primipara. Most of the A feedings (9 of 13) and least of the E feedings (2 of 9) were among the multiparous. This trend in the direction of successful feedings did not hold however for the mid groups (2 of 7 for B feedings, 3 of 4 for C, and 2 of 3 for D). An illustration of the manner in which inexperience may influence the situation at the end phase is taken from the first observation period of Case 9, a primipara. The baby was not sucking but still had the nipple in his mouth when the nurse came. The mother had apparently stopped nursing 5 minutes previously. She told the observer that she was tired and felt cramped but had remained in the same position because she did not know how to take the nipple out of the baby's mouth. Such examples among primiparae were all limited to the first 3 days of the postnatal week.

The length of time available for the nursing period might conceivably influence the situation when the nurse returned since the longer the period the more likely the mother might terminate the feeding before the end phase. This was not the case, however. No differentiation was found when short periods were compared with longer ones. The same held true also when the 3 cases of consistently short periods each less than 25 minutes (Cases 23, 24, 25)

## CHAPTER 5

### INTERVAL PHASE; END PHASE SECTION I

WHEN the nurse returns for the baby some mothers are still nursing. Others have stopped. In the latter case an interval elapses before the observation period is over during which time the mother may fondle or talk to the baby. The mother's behavior during this interval and at the end of the feeding phase and also when the nurse left with the baby were studied as part of the end phase (Chapter 1) and found to contain useful indicators of maternal attitude.

Now our task is to study the end phase in more detail. We may begin with the behavior of the mother at the time the nurse returns for the baby. Why have some mothers stopped nursing, others not? From our study of the feeding phase we would assume that a mother is very likely to go on nursing if the baby responds to her stimulation, unless she suffers pain. In the case of the most successful feedings (A), successful in regard to the baby's continuous sucking, the nurse on her return would thus be more like to find the baby still at the breast, unless the feeding was painful. In the case of feeding failures, feedings characterized by frequent and unsuccessful stimulations, we have learned that mothers are not likely to keep on trying to the very end of the period, also that they give up sooner in the earlier days of the postnatal week. Actually the A feedings differ from the E feedings in the manner anticipated. Of the 13 A feedings the baby was still at the breast when the nurse arrived in 9, and the others contained 2 of the 3 painful A feedings. Eliminating all painful feedings there remain 10. In all but 2 of them the baby was at the breast when the nurse returned. The opposite situation held for the 9 E feedings. In all but 2 of them the baby was not at the breast when the nurse returned. The other feedings (B, C, and D) however were not consistent in this respect. In 4 of the 7 B feedings for example the baby was not at the breast when the nurse returned (Table III).

ing or frustrating feeding failures\* would persist in nursing to the end. The former are represented by 2 out of 7 mothers; the latter also by 2 out of 7. The former (Cases 13 and 24, both) rank above the median, the latter (Cases 9 and 25) rank at and above the median, respectively. Two of the highest ranking mothers however (Cases 18 and 8) one of whom had a frustration and the other a painful feeding were not exceptional in this respect. The 2 mothers who had interval phases in A feedings that were not painful (Cases 7 and 14) rank above and below the median. However as we have learned in Chapters 3 and 4 there are marked and discernible differences in the degrees of pain and frustration. We must also consider the possibility that a maternal attitude may operate to favor an interval phase before the nurse arrived to make more time for fondling the baby. On that basis we would expect that the high ranking mothers would have more interval phases before the nurse returned than the others; but that was not the case.

At this point our answer to the question proposed at the beginning of this chapter is limited to the statement that a mother is more likely to keep on nursing her baby to the end of her allotted time in the hospital, if the baby is very responsive to her nursing (an A feeding) and less likely to do so if the baby is not responsive (an E feeding). This tendency does not appear to be altered by the amount of time available within the limits set for our group, nor generally by feelings of affection for the baby as determined by a comparison of the most and the least maternal mothers in our group or by the ranking of all members of the group on a scale.

The tables that follow present the data from which the findings considered in this section were drawn. In Table I the situation just before the nurse arrived is depicted in the column labeled "nurse coming." The phase, feeding or interval, is noted, as well as certain other aspects of the feeding and the mother's behavior. The other columns include behavior of mother and nurse after the nurse's arrival and the mother's behavior just after the nurse's departure. They will be considered in later sections.

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\*A "frustrating" feeding as previously defined may be a feeding of any classification. A feeding failure is not necessarily a frustrating feeding. To be so it would contain typically a series of stimulations increasingly vigorous and in response to indications from the infant of readiness to suck, only to end in failure (see Chapters 2 and 3).

were studied separately. In the first the mother had an A and an E feeding. The A feeding was still in progress when the nurse returned, the E feeding had been stopped. The second had an A and a B feeding. In each the feeding was still in progress when the nurse returned. The third had 3 feedings for observation, an E, a C and an A. The E and C feeding had been terminated; the A feeding was still in progress. In each of these 3 cases the situation was consistent with feeding success. It was inconsistent with available time. The same inconsistency with available time was found in the 2 cases (7 and 11) in which each feeding was 30 minutes or longer. In Case 7 the mother had 3 feedings, a C and two A's. One of the A's lasted 37 minutes, the longest in the entire group. Yet it was still in progress when the nurse arrived. The C and the other A feeding had been terminated. In Case 11 the A feeding was still in progress; the B feeding had been terminated.\*

Maternal attitude was not found to be differentiating in regard to cessation of feeding when the nurse returned. That would follow from the fact that most of the nursing mothers were inconsistent in this respect. They had the baby at the breast when the nurse returned during one observation period and had already stopped nursing during another. Now let us call the interval of time after the nursing was stopped and until the nurse returned, an interval phase. Four mothers were consistent in regard to the interval phase (Cases 16, 18, 20, 21). They contained the highest ranking and next to the lowest ranking mother. The 4 were all primiparous and, of their 9 feedings, 6 were failures (E). Only 1 mother (Case 24), a multipara, was consistent in continuing the nursing to the end of each observation period. Her feedings were both successful (B and A).

Another method of searching for an attitude-determinant in this situation is by selecting the exceptions to the general trends. The probable exceptions would be mothers who in spite of painful feed-

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\*Judging by the time when the nurse returned in the breast feeding cases it appears that in one hospital she tried to do so no later than 25 minutes; in the others, about 30. The return was within 25 minutes or earlier in all seven observation periods of three mothers in the same ward. In the remaining 29 periods there were 3 in which the nurse returned in 20 to 24 minutes, but these were all single instances in the feeding periods of 3 mothers. In all the other periods the nurse returned 25 minutes or later; 25 to 29 minutes in 8; 30 to 37 minutes in 18.

TABLE I (Continued)

Case No Observation Period and Feeding Classification	Observation Units	Nurse Coming	Arrives	Leaves with Baby
9, IIE	31-33	Feeding phase ending Sucking slowed down M talking to a patient about going home and complaining about baby (Frustration feeding 8th post-natal day)	Nurse took baby from breast	Mother sighed and said "Well that's over with"
10, IC	13, 14, 15	Interval phase Sucking stopped Baby asleep No mat response (painful feeding)	Nurse put baby in crib and waited	Mother groaned and closed her eyes
IID	22, 23	Feeding phase ending Nipple retention No mat response	Nurse took baby from breast	No response to baby
IIID	31-35	Interval phase Rocking, patting Later smiling at baby, regarding, staring into space (Feeding failure Stopped stimulating after 9 min of 35 min period Seventh postnatal day)	Mother rose from her chair and gave baby to nurse	No response to baby
11, IIB	10-18	Interval phase Regarding, smiling, cooing, talking	Mother said to nurse "He was so good and ate a lot"	M said "Bye bye, cookie"
IIIA	30-32	Feeding phase ending Slowed sucking No mat. response	Nurse asked M if baby had finished M said "I don't know" Nurse took baby from breast	M turned away from baby and closed her eyes
13, IID	10-21	Interval phase (Feeding stopped by breast withdrawal because of pain) Laughing talking, patting (Painful feeding)	Nurse told M feeding would be better next time	No response to baby

TABLE I  
MATERNAL BEHAVIOR AT END PHASE OF BREAST FEEDING PERIODS

Case No Observation Period and Feeding Classification	Observation Units	Nurse Coming	Arrives	Leaves with Baby
7, IC	20, 21 22	Interval phase (A frustration feeding)	Nurse asked how everything had gone M replied baby sucked well but went to sleep for 5 minutes	No response to baby
IIA	42-45	Interval phase M talked to baby laughed, made kissing sounds	M told nurse that baby was very good	No response to baby
IIIA	70, 71	Feeding phase Baby still sucking (7th postnatal day)	Nurse took baby from breast	Mother said "Bye bye, we're going home tomorrow"
8, IA	12, 13, 14	Feeding phase Sucking slowed down (Painful feeding)	Nurse took baby from breast	No response to baby
IIA	20, 21	Feeding phase Baby was still at breast Smiling cuddling	Nurse took baby from breast	No response to baby
IIIA	29, 30	Interval phase Patting cuddling kissing sounds (Painful feeding Doctor advised change to bottle)	Nurse took baby	M said "Well goodbye I hope you like your bottle better and don't spit up"
9, IA	13, 14	Feeding phase ending Nipple re-tention M tired and "cramped"	Nurse took baby from breast	M sighed and stretched
IIIB	20, 21	Interval phase Felt baby's hand Said, "Now I can look at you" Patted, cooed	Nurse took baby	M watched nurse as she wheeled baby away

TABLE I (Continued)

Case No Observation Period and Feeding Classification	Observation Units	Nurse Coming	Arrives	Leaves with Baby
18, IE	7-11	Interval phase Regarding, patting; feeling, looking at nurse and around the ward	M gave baby to nurse Patted baby's head and said, "She sure don't take to it"	No response to baby
IIE	32-34	Interval phase M said "I'm tired of it" Talked to patient in next bed, as baby slept across her knees Looked at baby now and then (Frustration feeding)	M said to nurse, "She'll be hungry this evening" Nurse left for awhile M put baby on bed beside her and read a newspaper Nurse returned and took baby	No response to baby Mother continued to read newspaper
20, IE IIC	12, 14 22-26	Interval phase M looked at baby Interval phase M turned aside, stared at ceiling Baby made sucking movements, stirred in sleep No mat response M closed her eyes	Nurse took baby Nurse took baby	No response to baby No response to baby
IIIE	50, 51	Interval phase M had her back to baby as she read a book (painful feeding)	Nurse said, "Did you make him eat?" M said, "He won't eat" Nurse took baby Mother sighed, removed her mask and continued reading	No response to baby
21, IE	14, 15	Interval phase M looked around ward, laughed at something other patients were saying, looked at baby, put hand around her back and smiled at her (Frustration feeding)	M said "I couldn't get her to wake up She was very bad today" Laughed Nurse said "she'd be all right" Took baby	Watched
IIB	45, 46	Interval phase M held baby Looked at baby and into space	Nurse asked if baby was through nursing M said, "I guess so She hasn't taken any in a long time though I've got lots" Nurse took baby	No response to baby



TABLE I (Continued)

Case No Observation Period and Feeding Classification	Observation Units	Nurse Coming		<i>Arrives</i>	<i>Leaves with Baby</i>
		Feeding phase	Baby still sucking (Painful feeding)		
13, IIIB	40, 41	Interval phase	Mother withdrew breast and groaned. Stroked baby's hair once, looked at baby and around room. Baby made sucking movements. No mat response (painful feeding)	Mother told nurse that "everything went beautifully"	No response to baby
14, IA	9-12	Interval phase	Looked at baby, laughed, looked around room	Nurse asked if feeding was all right and M said 'yea.' M asked nurse if baby's eyes had been examined. Nurse said "yes, and they were fine." M groaned	No response to baby
IIA	20-21	Feeding phase	Ending Sucking slow and weak. M looking around the room and laughed at a joke told to other patients	M told nurse baby had nurse 20 minutes	No response to baby
IIIA	32, 33	Feeding phase	Ending Sucking slow and weak. M looking around the room and laughed at a joke told to other patients	Nurse took baby from breast	No response to baby
15, IIB	16, 17	Feeding phase	Mother still stimulating baby to suck after 30 min (Frustration feeding)	Nurse took baby from breast	M said, "Goodbye sleepy head," and made kissing sounds
16, IIE	32-35	Interval phase	M turned away from baby and read a newspaper	M said, "He's not nursing." Nurse said, "He's going now," and took baby	No response to baby
IIIB	45, 46	Interval phase	M talking to a patient while baby slept at breast, nipple in mouth	M removed nipple from baby's mouth, handed baby to nurse and continued her conversation	No response to baby

Table II contains the factors that were studied in relation with interval and feeding phases summarized in Table I. They include besides case numbers: observation periods, feeding classification, the two phases, primiparity, postnatal day, frustration feedings, and the length of time that elapsed when the nurse arrived.



TABLE I (Continued)

<i>Case No Observation Period and Feeding Classification</i>	<i>Observation Units</i>	<i>Nurse Coming</i>	<i>Arrives</i>	<i>Leaves with Baby</i>
23, IE	7-11	Interval phase Regarding, patting, smiling, and feeling baby. M also looked around ward at ceiling shifted position frequently and was very restless	Patted baby's back once more Nurse took baby	Watched
IIB	27	Feeding phase Baby still sucking	Nurse said, "He's getting good" Mother nodded Nurse took baby from breast	Watched
24, IB	23, 24	Feeding phase Baby still sucking (Painful feeding frustration feeding)	M said to baby, 'Come on fat stuff That's all for today You should start sooner if you're going to eat so much' She withdrew the nipple Nurse took baby	Mother turned over, removed mask and talked
IIA	40-42	Feeding phase Baby still sucking M groaning when nurse entered the ward M said 'Thank God!' (Painful feeding)	M "pushed" baby into nurse's arms and said 'Oh! Oh God! It's terrible'	No response to baby
25, IE	14, 16	Feeding phase M kept nipple close to baby's mouth at the end in spite of lack of success (Frustration feeding)	Nurse asked M if baby was eating M said 'No, he just sleeps' Nurse said he would soon She left and soon returned to take baby Meanwhile M stimulated baby As nurse took baby, M said 'Such a sleepy head Nurse took baby	Watched
IIC	30, 31	Interval phase M looked at baby and around ward		Watched
IIIA	59, 60	Feeding phase Baby still nursing	Nurse took baby from breast	Watched

The tables that follow are all derived from Table II

TABLE III

## POSTNATAL DAY

	1	2	3	4	5	6	7	8	Total
Number interval phases	4	4	3	6	1	2	1	0	21
Number feeding phases	1	2	1	4	1	1	3	1	15

TABLE IV

## FEEDING CLASSIFICATION

	A	B	C	D	E	Total
Number interval phases	4	4	4	2	7	21
Number feeding phases	9	3	0	1	2	15

TABLE V

	Primipara	Multipara	Total
Number interval phases	13	9	22
Number feeding phases	5	9	14

TABLE VI

## FEEDING CLASSIFICATION

<i>Time Elapsing When Nurse Returned</i>	A	B	C	D	E	Total
25 minutes or less	7	1	1	1	6	16
26 minutes or more	6	6	3	2	3	20

TABLE II

FEEDING PERIODS AT END PHASE, COMPARED FOR FEEDING SUCCESS, POST-NATAL DAY, DURATION OF PERIOD, FRUSTRATION, PAIN AND PRIMIPARITY

(A Checkmark Indicates Presence of the Factor Listed)

Primipara	Case No	Observation Period	Feeding Class	Post-natal Day	Time Elapsing When Nurse Arrived (min)	Interval Phase	Feeding Phase	Frustration Feeding	Painful Feeding
	7	I	C	2	32	✓		✓	
		II	A	3	33	✓			
		III	A	7	37		✓		
✓	8	I	A	1	30		✓		
		II	A	2	25		✓		
		III	A	6	20	✓			✓
✓	9	I	A	3	35		✓		
		II	B	4	30	✓			
		III	E	8	25		✓	✓	
	10	I	C	1	32	✓			✓
		II	D	5	25		✓		
		III	D	7	35	✓			
	11	II	B	4	30	✓			
		III	A	7	30		✓		
✓	13	II	D	3	28	✓			✓
		III	B	4	35		✓		✓
	14	I	A	1	28	✓			✓
		II	A	4	30	✓			
		III	A	7	25		✓		
✓	15	II	B	4	30		✓	✓	
✓	16	II	E	2	25	✓			
		III	B	6	30	✓			
✓	18	I	E	2	25	✓			
		II	E	4	35	✓		✓	
✓	20	I	E	1	23	✓			
		II	C	3	30	✓			
		III	E	5	30	✓			✓
✓	21	I	E	1	32	✓		✓	
		II	B	4	27	✓			
	23	I	E	2	17	✓			
		II	A	4	21		✓		
	24	I	B	2	25		✓	✓	
		II	A	4	23		✓		✓
	25	I	E	2	17		✓	✓	
		II	C	4	19				
		III	A	6	23	✓	✓		

The contrast is also revealed clearly when we consider the feeding classifications under the columns marked present and absent. Of the latter 10 all but one have a classification of C or lower. Of the former 11, 7 have the classification A or B.

The findings favor the inference that a positive response in the interval phase is more likely to occur when the feeding is successful. For the A feedings there was no exception. For the B feedings the 1 exception (Case 16) was the least maternal of the group of nursing mothers. The 2 exceptional mothers who responded after a feeding failure (E) were the highest ranking mothers of the group (Cases 18 and 23).

Our inference may be generalized in the following way. Breast feeding mothers in hospitals with scheduled feedings of a half hour or less who are through before the nurse arrives respond to the baby during the interval in a positive way if the baby has sucked during most of the period, otherwise not.

Barring the exceptions, the presence or absence of response as revealed in Table VII does not differentiate maternal attitude. Mothers high and low on the scale of maternal feelings respond or fail to do so in accordance with success or failure in feeding. A low scoring mother (Case 11) whose interval phase followed a successful though painful feeding and whose response included smiling, cooing and talking to the baby said to the nurse, "He was so good and ate a lot." Her remark may contain the significant clue. The positive response may represent a feeling of success on the part of the mother that is bound, as we have noted previously, to encircle the baby. The lack of positive response on the other hand may represent a feeling of failure on the part of the mother which also encircles the baby. In the latter case the mother's remarks to the baby made during feeding failures (see Chapter 3) are often accusatory. Thus mere presence or absence of positive response in the interval following the feeding may be explained by feelings that are bound by the immediate experience rather than by more basic maternal feelings. Such feelings can be differentiated as shown in Chapter 1 by the quality of the response and probably, as we have noted in this chapter by the exceptions to the rule.

Of the thirteen cases whose interval phases comprise Table VII there are 7 who had 2 or more, respectively. In each of these cases but 1 (Case 10), the presence or absence of response runs according to the inference already made. Certain problems however must

## SECTION II

So far we have considered the interval phases in regard to their presence or absence. Now we will consider their content in regard to "positive" social response. There were 22 interval phases that followed the feedings. The social response to the baby, as described in Table I including all tactile, vocal, verbal and smiling responses but excluding "looking" were recorded as present or absent in Table VII.

TABLE VII  
INTERVAL PHASE

(Maternal response to baby during the interval following the feeding phase  
Absence or presence of any social response (tactile, verbal, vocal or smiling)  
is indicated by a check mark) \*

Case No	Feeding Period	Feeding Classification	Social Response	
			Present	Absent
7	I	C		✓f
	II	A	✓	
8	III	A	✓p	
9	II	B	✓	
10	I	C		✓p
	III	D	✓	
11	II	B	✓	
13	II	D	✓p	
14	I	A	✓p	
	II	A	✓	
16	II	E		✓
	III	B		✓
18	I	E	✓	
	II	E		✓f
20	I	E		✓
	II	C		✓
	III	E		✓p
21	I	E		✓f
	II	B		
23	I	E	✓	
25	II	C	✓	

\* f indicates frustration feeding, p indicates painful feeding

Social responses of the type described were present in all 4 of the interval phases following the 4 "A" feedings; in 3 of the 4 B feedings; in none of the 4 C feedings; in 4 of the 9 D and E feedings. Comparing the A and B feedings with the others, positive social responses were present 7 out of 8 in the former, 4 out of 13 in the latter.

was on the evening of her last day in the hospital may have been a factor.

### SECTION III

Investigation of the interval phase began with the study of its presence or absence when the nurse returned. Why were some mothers still nursing at that time while others had stopped? The feeding classification was first applied to the problem on the obvious assumption that mothers were more likely to go on to the end when the babies sucked well. The result showed a consistent difference as anticipated in regard to the most and the least successful feedings (A and E) but not in the others.

Consistent differences in the presence or absence of the end interval phases were found in relation with postnatal day and multiparity. However the differences could be readily explained by the fact that more A feedings occurred in the later postnatal days and among the multiparous. No consistent differences were found when the feedings were compared for the number of minutes available or for maternal attitude. Mothers high or low on the scale could not be differentiated in respect to presence or absence of the end interval.

The mothers' behavior during the intervals were first investigated for the presence or absence of a positive social response to the baby. The former included smiling, and the various forms of tactile, vocal and verbal response. It was found that a positive social response was more likely to occur when the feeding was successful. This held true with a few notable exceptions regardless of ranking on the scale of maternal feeling. The exceptions were the least maternal member of the group who gave no positive social response after a successful feeding and the two highest ranking members of the group who gave a positive social response after a feeding failure. The primary determinant of the positive social response was thought to be due to feelings engendered by a successful feeding experience, since the success of the feeding alone was differentiating.

The test of differential responses by the same mother with two or more feeding periods containing interval phases confirmed the previous finding: The two cases out of seven in which discrepancies occurred could be explained by such factors as postnatal day, fatigue, the baby's response, and maternal attitude.



claim our attention. The same mother (Case 18) with 2 E feedings gave a positive social response in the interval phase of one but not in the other. In the latter, her response was rather negative. She talked to a patient in the next bed and said "I'm tired of it." Meanwhile the baby slept across her knees. During further conversation with her neighbor she looked at the baby occasionally. The nurse arrived. The mother said to her, "She'll be hungry this evening." Instead of picking up the baby the nurse had to leave for a short while. Meanwhile the mother read a newspaper. Her responses to 2 feeding failures were in marked contrast; yet she was the highest ranking mother of the group. Her positive response after the first E feeding was regarded as exceptional. Why was she not exceptional again? The answer can be gleaned by reference to Chapter 2 (section X) where both feedings are described. The first feeding failure occurred on the second postnatal day. Most of the available time was spent in fondling the baby. Stimulating activities were given up after 2 minutes when the baby gave no evidence of waking. The second feeding failure was observed on the fourth postnatal day. It was probably the most frustrating in the entire series. Stimulations were persistently repeated for 26 minutes before the mother stopped trying and said, "Im tired of it." The difference can be explained by maternal response to a feeding failure in a later and early postnatal day, and by maternal response to feeding failure which was also very frustrating. The reaction to frustration apparently dominated the picture. It does not obliterate however all evidence of maternal attitude (Chapter 2, section X).

Another discrepancy was one in which a response was absent in a C feeding and present in a D feeding (Case 10). In the first, though an early feeding (first postnatal day) and partially successful, absence of response can be explained on the basis of pain and passivity. The mother groaned throughout the feeding. Response to the D feeding cannot be explained by the factors previously employed. The baby stopped sucking after 7 minutes. The mother tried to initiate sucking but gave up quickly when the baby was actively resistant. The mother then held the baby, rocked and patted him. Her patting was accompanied by gazing into space. Her behavior could be differentiated from the others by her quick yielding to the baby's resistance and by her failure to continue stimulation after an encouraging period of initial sucking for at least 21 minutes of available time. The fact that the feeding

TABLE VIII

INTERVAL PHASE IMMEDIATE SEQUENCES PRECEDING INTERVAL PHASE, ESTIMATED DURATION, AND TIME OF ONSET OF THE INTERVAL FOLLOWING THE BEGINNING OF OBSERVATION PERIOD			
( ? means time was estimated on the basis of preceding and following time notations)			
Case No Observation Period and Feeding Classification	Observation Units	Time After Beginning of Observation Period (minutes)	Comment
7, IC	19 Sucking in end stage Mother watching someone in ward — first evidence of distraction		19 Continuous stimulation in a frustration feeding had gone on At this point mother may have decided it was time to stop
IIA	20 Baby began sucking a bit stronger Mother said, 'See how she's sucking now', 21 Baby stopped sucking and fell asleep Mother said, 'Oh, are we going to start this all over again?' Interval of two minutes followed before nurse arrived	30	21 It happened about 12 minutes previously that the baby fell asleep and was awakened by means of strong stimulation
	41 Sucking very weak Mother said, "Aw now you're getting tired" She withdrew the breast	27?	An easy A feeding for 20 minutes, after which frequent stimulation Mother said she wanted baby to empty the breast because otherwise breast would hurt
IIIA	42 Interval phase began Duration about six minutes Talking, laughing, kissing sounds 64 Baby stopped sucking Falling asleep Mother stimulated 65 Baby didn't suck Mother withdrew breast Interval phase began with rocking, cooing, talking Duration about five minutes 68 Baby opened mouth and mother put baby back to breast.	28?	65 An A feeding which mother apparently decided was finished

In the next part of the investigation the immediate sequences of behavior preceding the intervals were studied and the other interval phases were added, since some occurred during the feeding period, before its termination. Five preliminary interval phases were found (7,III; 20,I; 21,I; 23,II; 25,II). Three were in addition to an interval phase that followed the feeding. Adding all of them, the 5 that preceded and the 21 that followed the feeding phase, we have 26 in all. All of them are contained in Table VIII in which the immediate sequences of behavior preceding each interval phase were assembled, besides other pertinent data.

Table VIII is a further development of that part of the column in Table V under the caption "nurse coming" that deals with the interval phase. The latter deals with behavior that occurred during the interval. The former deals primarily with behavior that immediately preceded it.

TABLE VIII (Continued)

Case No Observation Period and Feeding Classification	Observation Units	Time After Beginning of Observation Period (minutes)	Comment
13, IID	19 Mother removed breast after a painful suck Interval phase began Duration three minutes Mother said, "Aw, I'm sorry I have no milk." Laugh- ing, patting	25?	The first nursing though on the third postnatal day Mother not allowed to previously apprehensive of a "cold." Mother apparently apprehensive about inserting nipple (obs units 8, 9, 10, 11) because of pain
14, IA	6 Baby sucking Mother said "She's still taking it, but I guess it's enough"	10	Though told because of painful feeding to stop after ten minutes, mother could have gone on if she wished (as she did in the third feeding observed)
IIA	7 Baby was sucking when mother withdrew breast and said, "Ow, ow." Interval phase began Duration ten minutes No response to baby 18 Baby sucked, eyes closed Mother withdrew breast Interval phase began Duration 10 min Response, looking at baby and laughing	20	Time of feeding was according to direction, which mother could utilize as she wished See 14, III
16, IIE	31 Baby remained asleep after a few stimulations failed to awaken him 32 Mother quit trying and reached for a newspaper Interval phase began Duration ten minutes No social response to baby	15	
IIIB	45 Baby stopped sucking and slept though retained the nipple Interval phase began Duration eight minutes Mother talking to other patients	22	

TABLE VIII (Continued)

<i>Case No Observation Period and Feeding Classification</i>	<i>Observation Units</i>	<i>Time After Beginning of Observation Period (minutes)</i>	<i>Comment</i>
8, IIIA	28 Baby stopped sucking Sneezed Mother said baby had enough but resumed feeding She attributed the sneeze to the nursing	18?	A feeding with acute pain and breast withdrawals
	29 Baby spit up Mother said 'See that, that aggravated me I give her and give her and all she does is to spit it up' Interval phase began Patting, cuddling, kissing sounds Duration 2 minutes (?)	29	Annoyance at baby may have been due to pain rather than the regurgitation
9, IIB	18-19 After the baby stopped sucking mother about to withdraw breast, but didn't and then began nursing again Baby sucking Mother then withdrew breast	20	Apprehension of breast withdrawal overcome at twenty minutes
	20 Interval phase began Feeling, patting, cooing Duration ten minutes		
10, IC	13 Baby released nipple and fell asleep Interval phase of few minutes duration Mother passive	30	Painful feeding marked by passivity A C feeding on first postnatal day
IIID	31 Baby did not respond to stimulation Kept lips pressed together Mother stopped stimulating and interval phase began Rocking, patting Later smiling, regarding, staring into space Duration twenty-six minutes	9	A very long interval phase, preceded by evidence of passivity Lack of stimulation for twenty-six minutes was unusual
11, IIB	15 Baby did not respond to stimulation Mother said "I guess you've had enough," and stopped feeding Interval phase began Duration five minutes Smiling, cooing, talking	25?	Frequent active stimulation after sucking diminished at fifteen minutes

TABLE VIII (Continued)

<i>Case No Observation Period and Feeling Classification</i>	<i>Observation Units</i>	<i>Time After Beginning of Observation Period (minutes)</i>	<i>Comment</i>
	11 Baby slept. Mother stopped trying to waken her second interval phase began Duration eight minutes Mother listened to conversation, looked at baby and around the ward, put a hand on baby's back and smiled at her	21	
11B 41	Baby slept. Mother said, "Well that is not very much but I guess you're full." Stopped stimulating Withdrew breast Interval phase began Duration a few minutes Mother looked at baby and into space	25	Repeated stimulations in a B feeding.
23, 12	0 Mother stopped trying to nurse sleeping baby after about seven minutes Interval phase began Duration ten minutes Patting, smiling, feeling	7	An E feeding on second postnatal day.
11A 22	Baby coughed and regurgitated Mother withdrew breast Interval phase began Duration a few minutes Patting, feeling	10	
24	Baby made sucking movements Nursing resumed to end of period		
25, 12C 25	Baby stopped sucking Mother said, "Must be full now He stopped That's all" Withdrew breast First interval phase began Duration a few minutes Stroking	13	
27	Mother burped baby and then tried to initiate sucking, but baby slept on		
29	Mother stopped trying Second interval phase began Duration one to two minutes Mother looked at baby and around ward	17	

TABLE VIII (Continued)

<i>Case No Observation Period and Feeding Classification</i>	<i>Observation Units</i>	<i>Time After Beginning of Observation Period (minutes)</i>	<i>Comment</i>
18, IE	6 Baby remained asleep after frequent stimulations Mother said 'She's a stubborn one Don't want to nurse' Stopped trying and interval phase began Duration sixteen minutes Patting, stroking, feeling	9	An E feeding on the second postnatal day
III E	31 Baby retained nipple, but didn't suck Asleep Mother stopped trying to nurse Said 'I'm tired of it' and talked to a patient Interval phase began Duration one to two minutes	33	A difficult frustration feeding
20, IE	6 Baby stopped sucking but retained nipple Mother withdrew breast, turned away from baby Interval phase, duration nine minutes Looked at baby and around ward	6	An E feeding on first postnatal day
	10 Mother tried nursing again, and when baby stopped sucking after about a minute, mother withdrew breast and second interval began Duration seven minutes (?) Looked at baby.	16	
II C	21 Baby stopped sucking but retained nipple Mother withdrew breast Interval began Duration thirteen minutes Mother stared at ceiling and closed her eyes	17	
III E	49 Baby actively resisted stimulation Mother withdrew breast, sighed and said, 'Oh, h, h!' Interval phase began Duration nine minutes Mother read a book	21	Difficult frustration feeding
21, IE	10 Baby slept Mother stopped trying to waken her First interval phase began Duration five minutes Looked at baby, smiled, cuddled, arranged baby's blankets Then feeding resumed	15	Followed repeated strong stimulation and remark "You're lazy, come on! Please!" An E feeding on first postnatal day

TABLE VIII (Continued)

<i>Case No</i> <i>Observation</i> <i>Period and</i> <i>Feeding</i> <i>Classification</i>	<i>Observation Units</i>	<i>Time After</i> <i>Beginning of</i> <i>Observation</i> <i>Period</i> <i>(minutes)</i>	<i>Comment</i>
	14 Baby slept Mother stopped trying to waken her Second interval phase began Duration eight minutes Mother listened to conversation, looked at baby and around the ward, put a hand on baby's back and smiled at her	24	
IIB 44	Baby slept Mother said, "Well that is not very much but I guess you're full" Stopped stimulating With- drew breast Interval phase began Duration a few minutes Mother looked at baby and into space	25	Repeated stimulations in a B feeding.
23, IE 6	Mother stopped trying to nurse sleeping baby after about seven minutes Interval phase began Duration ten minutes Patting, smiling feeling	7	An E feeding on second postnatal day.
IIA 22	Baby coughed and regurgitated Mother withdrew breast Interval phase began Duration a few minutes Patting, feeling	10	
24	Baby made sucking movements Nursing resumed to end of period		
25, IIC 25	Baby stopped sucking Mother said, "Must be full now" He stopped That's all Withdrew breast First interval phase began Duration a few minutes stroking	13	
27	Mother burped baby and then tried to initiate suck- ing, but baby slept on		
29	Mother stopped trying Second interval phase began Duration one to two minutes Mother looked at baby and around ward	17	



TABLE VIII (Continued)

<i>Case No Observation Period and Feeding Classification</i>	<i>Observation Units</i>	<i>Time After Beginning of Observation Period (minutes)</i>	<i>Comment</i>
18, IE	6 Baby remained asleep after frequent stimulations Mother said "She's a stubborn one Don't want to nurse" Stopped trying and interval phase began Duration sixteen minutes Pating, stroking, feeling	9	An E feeding on the second postnatal day
IIE	31 Baby retained nipple, but didn't suck Asleep Mother stopped trying to nurse Said "I'm tired of it" and talked to a patient Interval phase began Duration one to two minutes	33	A difficult frustration feeding
20, IE	6 Baby stopped sucking but retained nipple Mother withdrew breast, turned away from baby Interval phase, duration nine minutes Looked at baby and around ward	6	An E feeding on first postnatal day
	10 Mother tried nursing again, and when baby stopped sucking after about a minute, mother withdrew breast and second interval began Duration seven minutes (?) Looked at baby.	16	
IIC	21 Baby stopped sucking but retained nipple Mother withdrew breast Interval began Duration thirteen minutes Mother stared at ceiling and closed her eyes	17	
IIIE	49 Baby actively resisted stimulation Mother withdrew breast, sighed and said, "Oh, h, h, h!" Interval phase began Duration nine minutes Mother read a book	21	Difficult frustration feeding
21, IE	10 Baby slept Mother stopped trying to waken her First interval phase began Duration five minutes Looked at baby, smiled, cuddled, arranged baby's blankets Then feeding resumed	15	Followed repeated strong stimulation and remark "You're lazy, come on! Please!" An E feeding on first postnatal day

TABLE IX

## INTERVAL PHASE

(Behavior of baby immediately preceding cessation of nursing. Case number, observation period and feeding classification are listed under each caption)

<i>Sucking Stopped or at End Stage</i>	<i>Lack of Response to Stimulation</i>	<i>Still Sucking</i>	<i>Regurgitation</i>
7, I C II A III A			8, III A
10, I C	10, III D 11, II B	9, II B 13, II D 11, I A II A	
16, III B	16, II E 18, I E II E		
20, I E (2)* 20, II C	20, III E 21, I E (2)*		
21, II B	23, I E		21, II A
25, II C (2)*			

\* 2 interval phases

which the mother persisted in initiating sucking for a relatively long period of time after the usual sucking pattern that starts with immediate and strong sucks had come to a halt after the first 15 minutes. When the baby started its first long pauses at 8 minutes past the initial sucking the mother said, 'Now don't stop, you know you can eat more.' After nipple-release at 15 minutes active and persistent stimulation began. It was finally given up at about 25 minutes.

Four intervals were started by withdrawing the breasts from babies who were still sucking. They were the only intervals found which were not immediately preceded by cessation or near cessation of sucking. The first of these (Case 9, II) did contain a period

While glancing through the record of observation units in Table VIII the reader will note the frequency of such observations as "sucking very weak," "baby stopped sucking," "baby fell asleep," etc., immediately preceding cessation of the nursing and the beginning of the interval phase. If the reader will also glance at the next column in which the time of the observation is recorded, he will note that it took place most frequently in the latter part of the observation period.

Of the 26 interval phases, ten came immediately after evidence of weakening or cessation of sucking after a previous period of sucking (see Table IX). All but 2 of the intervals began in the latter part of the observation period, 2 to 6 minutes before its end. Note also that A, B, and C feeding classifications are represented and a single E feeding.

There are 3 preliminary intervals in this group. In 1 (7, III) towards the end of the period the baby stopped sucking, fell asleep, the mother stimulated, the baby did not respond, and an interval phase began. It lasted 5 minutes when the baby opened its mouth and the mother started nursing again. The other preliminary period was in an E feeding (20, I). The baby stopped sucking at 6 minutes after the beginning of the period. The mother then withdrew her breast. Nine minutes later she started nursing again. The baby stopped sucking after a minute. Thereafter the mother stopped trying to nurse again for the rest of the period (7 minutes).

In the third instance (25, II) the mother said after 13 minutes had gone by "must be full now." The baby stopped sucking. The mother stopped nursing. After a few minutes the mother burped the baby and started nursing again. Unsuccessful, she stopped for a second interval of 1 to 2 minutes, to the end of the observation period.

The next most frequent behavior preceding the interval was featured by the mother's unsuccessful stimulating activity. Of the 26 interval phases, nine were in this category. All but one are D and E feedings. These intervals include all but one (20, I, 2 intervals 16 min.) that lasted longer than 10 minutes (Case 10, III, 26 minutes; Case 18, 16 minutes; Case 21, I, 2 intervals, 13 minutes). All the long intervals, including Case 20, I, were in D and E feedings which transpired on the first or second postnatal day. This finding is quite consistent with maternal behavior during first and second day feedings (see Chapter 2). The B feeding was one in

The mother stopped nursing and said "See that, that aggravates me. I give her and give her and all she does is to spit up." The annoyance at the baby may have been due to pain rather than the regurgitation, a kind of "displacement" found in painful feedings and described in Chapter 3. It may be argued that the mother's annoyance is understandable on the basis of the observations alone, namely her persistence in nursing in spite of acute pain only to have her milk spit up. One may infer from observation unit 28 that she was not quite decided about stopping and needed only an event, like the regurgitation, finally to make up her mind.

In Case 23, II, the mother started an interval phase after 10 minutes of nursing, immediately after the baby coughed and regurgitated. After 5 minutes of fondling, the baby made sucking movements and nursing was resumed to the end of the period. A possible explanation is that the mother took advantage of a halt in the feeding to fondle the baby. As soon as the baby showed signs of wanting to go on she resumed the nursing. The instance cited is the only one in which the factors previously noted as explanations for terminating the feeding do not apply. The sucking had been slowing down though not weakening the previous minute or two and mild stimulation had begun (breast jiggling), but this was not an end-stage of sucking. Furthermore when much stronger evidence of sucking diminution occurred later, after the interval phase, the mother employed vigorous stimulation. The possibility of pain or fatigue during the initial period of strong sucking remains. If present the indirect evidence was rather meager. It consisted of visual wandering and fussing with the baby's blankets.

The general inference can be made that excepting the early postnatal days, the mothers tried to use all the time available to them to keep the baby at the breast.\* When it was difficult to do so because of the baby's lack of response or active resistance to stimulation, and of their own discomfort through pain or fatigue, they persisted in nursing up to the last 5 or 10 minutes. They took less time out when sucking continuity could be maintained for 10 minutes or longer (A, B, and C feedings) than otherwise. Once they had decided to stop or were close to a decision, various factors, some of them accidental, hurried or delayed them. Regurgitation seemed to facilitate the decision in 1 case (8, III), a painful suck towards the end in another (13, II). After the mother stopped nursing when the baby appeared to be through, the baby made

of end-phase sucking at which time the mother started to withdraw the breast then apparently quickly changed her mind and resumed nursing. Shortly after resuming she withdraw the breast, though the baby was now sucking. Withdrawal occurred at the twentieth minute of a 30 minute period. Why had this mother started and then stopped withdrawing the breast when the baby stopped sucking? The answer is found in the observation of her previous feeding (9, I) in which she wanted to withdraw the breast after the baby had stopped sucking but didn't do so because, as she told the nurse, she was cramped but didn't know how to withdraw the nipple. Other observations indicated that withdrawing acted as a stimulus for further sucking. The immediate cause for changing her mind can be ascribed to apprehension over withdrawing which, once overcome, took precedence over other considerations.

In Case 13, II, the mother removed the breast after a painful suck and so terminated the feeding. It occurred during the last few minutes of the observation period. Painful sucks had occurred previously but the mother continued nursing in spite of the fact that little sucking was achieved. The remaining two intervals of this group of four were found in Case 14, I and II. In both instances, unlike the previous ones, there was no preliminary period of sucking cessation. In 14, I the mother was told because of pain to quit nursing after 10 minutes. When the 10 minutes were up the mother said, "She's still taking it but I guess it's enough." This remark besides other evidence referred to in Table VIII, indicates that the mother could have gone on if she wished to, and that the nurse's directions alone cannot explain her decision to terminate. The same reasoning applies to her second observation period, in which there was no direct evidence of pain. In both instances the reason for the termination of the nursing was ascribed to "maternal attitude," a point to be considered in a later section.

The remaining two intervals which followed regurgitation were of short duration. The first occurred in the last few minutes of the observation period (Case 8, III). The feeding was painful. There were previous withdrawals and restoring of the breast. The mother apparently went on as long as she could. After 18 minutes the baby stopped sucking and sneezed. The mother said the baby had enough but kept on nursing. She said the baby sneezed because of the sucking (excessive flow of milk?). Then the baby regurgitated.

because of regurgitation. It meant simply utilizing the time for fondling until the baby gave evidence of readiness to resume nursing.

#### SECTION IV

Now we should consider those feedings that contained no interval phases at all, feedings that continued until the nurse's arrival brought them to a halt. Thirteen feedings contained no preliminary or end intervals. Ten of them were classified as A or B; three as D or E. Of the total number of 36 feedings about a third contained no interval phases. Before proceeding to the task of learning how they differed from the others it is worth noting that in the majority of the feedings, mothers took time out. Excepting the A feedings, interval phases occurred in the majority of feedings of all other classifications, a result that was not altered when preliminary intervals were added to the others.\*

\*See Table IV. The correction for preliminary intervals applies only to classification A in which the number of feedings containing interval phases rose to 6, and the number was reduced to 7.

Of the 10 interval-free A and B feedings (8, I, II; 9, I; 11, III; 13, III; 14, III; 15, II; 24, I, II; 25, III) in all but one the baby was still sucking when the nurse arrived. In the exceptional case (9, I) the baby was at the breast with nipple in mouth but sucking had stopped for several minutes. When the nurse arrived the mother explained that she did not know how to withdraw the nipple and so remained in a cramped position without moving. The absence of an interval phase in this case was fortuitous (v.s. 9, II).

In the series of 10 interval-free feedings there are 3 pertaining to mothers each of whom had 2 or more A or B feedings with and without interval phases (Cases 8, 11, 14). Thus in Case 8 the mother had 3 A feedings. The first 2 were interval-free. The third which contained an interval phase was a painful feeding. There was evidence of pain also in the first, though of a minimal degree (1 verbal expression). The evidence of pain in the third was direct verbal, vocal and breast withdrawal behavior (see Table I, Chapter 3). Sucking vigor and continuity were quite favorable in the 3 feedings. In terms of sucking continuity and stimulating activity they were all easy feedings, especially the first and third, in regard to sucking continuity. The latter, however, was quite painful.

In Case 11 there was an interval phase in a B feeding and none in an A feeding, although the latter was the more difficult one,

TABLE Xa

\*INTERVAL PHASES, LONGER THAN FIVE MINUTES, STARTING IN THE FIRST HALF OF THE OBSERVATION PERIOD

(Derived from Tables II and VIII)

Case No Observ Period and Feeding Classif	Postnatal Day	Time of Onset	Duration
10 III D	7	at 9 min	26 min
16 II E	2	at 15 min	10 min
18 I E	2	at 9 min	16 min
20 I E	1	at 6 & 16 min	16 min
21 I E	1	at 15 & 24	13 min
23 I E	2	at 7 min	10 min

All the 5 interval phases that are longer than 10 minutes are in this group  
All the E feedings are of the first or second postnatal day

TABLE Xb

TIME TAKEN OUT PER FEEDING PERIOD ARRANGED ACCORDING TO FEEDING CLASSIFICATION\*

Feeding Classification	1 to 4 min.	5 to 9 min.	10 min. or Longer
A, B, & C	6	4	1
D & E	2	1	6

\*2 feedings of Case 14 omitted See text

sucking or mouthing movements and nursing was resumed (7,III, 23, II)

Burping the baby after an interval phase seemed to act as an incentive to further nursing (25, II) The fact that nursing was stopped rather early in the period appeared to act as an incentive to resume feeding without any stimulus from the baby in 2 instances (20, I, 9, II) Once a decision to stop had been made (in feeding 9, II) apparently after some hesitation, the baby's mouthing movements had no effect on it (v 1 9, I) There remained 2 cases in which maternal attitude alone seemed to explain the intervals In 1 (Case 14, I and II) it was thought to be due to lack of maternal feelings, in the other, to a high degree of it (Case 23,II) In the latter, it was thought that the mother welcomed the opportunity for fondling the baby when the sucking came to a halt

necessary only to keep the baby awake since then sucking always followed (as also 7, II).

In Case 25, III, sucking continuity appeared to be the main factor. Sucking was fast and vigorous the first 5 minutes, thereafter slower but still vigorous. Only mild stimulation was necessary.

Now there remain the 3 interval-free D and E feedings to consider. The D feeding (10, II) was featured by passivity. The mother hardly ever stimulated. The baby, though asleep, retained the nipple towards the end. The mother's passivity alone was responsible for the fact that the feeding contained no interval phase. In 9, III, an E feeding, persistent stimulation occurred for 20 minutes when sucking first began. It continued to the end, aided by further stimulation, of a 25 minute period. In 25, I, also an E feeding, the mother persisted to the end though no sucking was achieved. It was the only case in which this occurred, an event particularly noteworthy for an E feeding in an early postnatal day.

### SECTION V

The interval-free periods of the A and B classification revealed the following characteristics, when we include only those 9 interval-free periods in which the baby was still sucking when the nurse returned at the end of the period. (1) Continuous sucking occurred, once it began, with little or no stimulation (8, I; 24, II; stimulation frequency 0, 2, respectively. See Table II, Chapter 2). (2) Continuous sucking occurred once it began with frequent stimulation to which the infant always responded (8, II; 11, III; 13, III; 14, III; 15, II; 24, I; 25, III). (3) When attempts to withdraw the breast were begun or completed it was followed immediately by sucking, mouthing movements or crying (11, III; 13, III).\*

The only other feeding to which the first characteristic of sucking continuity with little or no stimulation applied was Case 14, II. The reason it was not interval-free was attributed to maternal attitude (v.s.). Characteristics 2 and 3 were found exclusively in the interval-free A and B periods. However, it is difficult to say precisely how much was determined by the sucking pattern and how much by the mother's efforts. The differentiation is easier if we consider only mild stimulation as in the form of repeated mild breast jiggling or patting. That was true of 5 of the 7 feedings concerned. Strong stimulations occurred in feedings 15, II, and 25, III. In the former, stimulations as described previously were used to



judging by the evidence of tension and fatigue. The difference was found in the sucking response. In the B feeding after the sucking stopped strong stimulations were of no avail. In the A feeding the initial period of sucking was more rapid and an apparent satiation point was reached. When the mother tried to remove the breast the baby cried. The mother then restored the breast and sucking continued thereafter without stimulating activity. The infant's response therefor was the differentiating factor.

In Case 14 the third of 3 A feedings was interval-free. Sucking continuity was favorable in all of them. The first feeding however was painful. It contained frequent verbal and vocal expressions of pain. The second feeding was terminated after 20 minutes though evidence of sucking vigor was still present. The termination was attributed to maternal attitude. Judging by her conversation with the nurse the mother wanted to stop after 10 minutes but the nurse advised her to go on to 20. In the third feeding which was interval-free the nurse's incentive to the mother was the likely differentiating factor. The mother said to the baby (observation unit 24) "Come on darling, the nurse said you were hungry."

Of the remaining interval-free feedings three were painful (13, II; 24, I and II). In Case 13, III, there were two occasions in which the mother appeared to be through nursing (observation units 32 and 36). In each case the baby gave evidence of sucking readiness and nursing was resumed. Sucking vigor and continuity were favorable.

In 24, I, sucking continuity was achieved by dint of constant stimulation though of a mild variety (breast jiggling). The baby always responded. In spite of pain the mother never failed to stimulate when sucking stopped. In 24, II, there was no problem about the baby's sucking. The problem was how to continue nursing in spite of pain. The feeding was the most painful of all judging by the criteria of frequency of verbal and vocal expressions and breast withdrawals (see Table I, Chapter 3). The mother managed to go on by occasional squeezing of her breasts to relieve the pain and by frequent distracting conversations with her neighbors. She was evidently set on holding out until the nurse's arrival. When relief came she said "Thank God!" picked up the baby and pushed her in the nurse's arms.

Of the remaining 2 interval-free A or B feedings, Case 15, II, B was kept in progress by means of strong stimulations. They were

sucking. However she did not withdraw the breast. As the nurse entered the ward she said, "Thank God!" removed the nipple, and when the nurse drew near pushed the baby into the nurse's arm and said "Oh, oh God, it's terrible!"

One explanation may be found in another feeding period of the same mother. In spite of a good measure of success, especially for an early feeding (a B feeding on the second postnatal day), she complained to her neighbor of the baby's indifference when his sucking vigor diminished ("Fat stuff here doesn't care whether she's fed or not"). When the nurse arrived the baby was still sucking though weakly. The mother then said to the baby, "Come on fat stuff, that's all for today. You should start sooner if you're going to eat so much." Apparently she was more concerned than the others about getting as much milk in the baby in the time available. Nevertheless, she made no complaint that the feeding was terminated when the baby according to her version, was still not through. She seemed to accept without question the hospital procedure.

Only 1 of the 7 mothers whose feedings were terminated when the baby was still sucking said anything in the nature of a protest (13,III). Towards the end of the feeding (at 25 minutes) the baby released the nipple and fell asleep. The mother rubbed her nipple over his mouth but there was no response. She then squeezed her breast and when a drop of milk came out, tried stronger stimulation several times and succeeded in initiating sucking activity. Shortly thereafter the nurse arrived. The mother told the nurse "everything had gone beautifully" and she still had some milk. She squeezed her breast to prove it. The nurse took the baby who was then asleep. The fact that the mother's final success was aborted by the nurse may have been a factor in the implied protest, since the baby had done well, as the mother said, and the sucking was in the end stage.

In one of the feedings of this series the nurse asked the mother if the baby was through (Case 11, III). The mother said she didn't know. Apparently the nurse was willing to wait if the mother wished her to, since the sucking was still in evidence when the nurse arrived, 30 minutes after the beginning of the period. The feeding had evidently been a difficult one. The initial period of strong sucking was followed by instances of breast withdrawals, marked tension, frowning and finally passivity.

TABLE XI

MOTHER'S TERMINATION OF FEEDING AT PRESUMED END STAGE OF SUCKING\*

<i>Followed by Infants' Sucking, Mouthing or Crying</i>		<i>Resumption of Nursing</i>	<i>Case No and Observ Period</i>
1	+ immediately	+	11 III, 13 III
2	+ immediately	—	9 II
3	+ after interval phase	+	7 III, 23 II
4	+ after interval phase	—	0
5	— after interval phase	+	25 II
6	— after interval phase	—	7 I II, 8 III, 10 I, 11 II 16 III 20 II 21 II

\* + means presence of indicated activity

— means absence of indicated activity

keep the baby awake since then it always sucked. In the latter rapid and strong stimulations were employed towards the end. The sucking however though slower was still strong.

It is clear that the primary factor in the A and B interval-free feedings is the sucking pattern. Such feedings were found in mothers above and below the median on the scale of maternal feelings.

## SECTION VI

The ambition to keep the baby sucking as long as time allowed was typical of our group. In this respect certain mothers differed from others in the persistency of their efforts. The persistency may have been an indication of maternal attitude. In some instances it may have been due to or reinforced by an attitude having to do with goal directed behavior in general, a determination to finish a job, or with a general measure of excellence. In Case 25, I, the persistence in stimulating the baby during a feeding failure in an early postnatal day may be an example. Case 24 may represent another example. The ambition to keep the baby sucking until the nurse arrived, in spite of pain, was revealed in her second observation period. In spite of frequent "biting" pain to which the mother responded with wincing, frowning, restlessness, squeezing of the breast, distracting conversation besides numerous groans, sighs, the expletive "ouch" and breast withdrawals, she always restored the breast. Towards the end she did not stimulate during slowed

viously complained of pain and had spoken to the nurse about it.

A nurse asked the mother "did you make him eat?" (Case 20, I). She had been prompting this "low scoring" mother previously. On a second occasion a nurse asked if the baby was through nursing (Case 21, II). At the time the baby was at the breast though not sucking. The mother had called for the nurse previously during this feeding because the baby coughed. At that time the flow of milk was rapid. The nurse said "he's getting good" (Case 23, II). It was a successful feeding in marked contrast to the previous one observed.

The nurse asked if the baby was eating (Case 25, I). The nurse had evidently been observing the mother's lack of success during an early postnatal feeding and followed the question with an encouraging comment.

The nurses' comments and questions were concerned with the difficulty of the feeding, the problem of satiation, compliments for the baby and exhortation of the mother. (We have considered the nurse's influence on the feeding through her remarks during the initial phase in Chapter 1.) In the end phase the nurse initiated the conversation with the mother in less than one fourth of the feedings.

Mothers initiated remarks to the nurse after her arrival in eleven feedings. Six were A or B feedings; the others, all E. Remarks in three of the A and B feedings were to the effect that the baby was good, he ate so well, etc. (Cases 7, II; 11, II; 13, III). In one (Case 24, I) the mother was apparently concerned over the fact that the baby still wanted to go on sucking ("you should start sooner," etc.). The same mother complained of pain in the end phase of her next feeding ("Oh, oh God, it's terrible!").

The mother's remark to the nurse in feeding 14, II, was a statement that the baby had nursed for 20 minutes, the length of time the nurse had recommended.

In four of the 5 E feedings mothers complained that the baby wasn't doing well ("he sure don't take to it," "she'll be hungry this evening," etc.; Cases 16, II; 18, I, II; 21, I; 23, I). One of the mothers added "she was very bad today" (Case 21). Of the 5, 1 case was included although no remark was made. In that case the mother patted the baby once more as the nurse took the baby (Case 18, I). It is notable that the only mothers who acted in this way were the two who scored first and second place on the scale

The apparent ready acceptance of the termination of the feeding on the nurse's arrival may be explained partly by the fact that the period of vigorous and continuous sucking was over in every feeding before the nurse arrived. The typical A or B feeding started with a period of strong sucking for five to ten minutes, to be followed by a continuous though less vigorous period of shorter duration. Thereafter sucking became gradually weaker and less frequent and was kept going by repeated and stronger stimulation, with evidence of fatigue if not also of pain.

It would appear then that mothers regard the nurse's return as an accepted end point for the feeding period under the conditions described. That persistency in nursing up to that end point is not necessarily proof of affection for the baby may be inferred from the feeding of mothers that may be so characterized above and below the average according to our ratings or observations of maternal feelings. Two mothers in the group of interval-free periods are below average (Cases 10 and 11). If we use the high frequency and variety numbers of stimulations as evidence of persistency (variety 6 and higher, frequency 20 and higher, Table 2, Chapter 2) we find 3 mothers below average. The determination to get as much milk as possible into the baby within the limit of time provided in the hospital may be due to factors other than maternal affection.

## SECTION VII

Now we may proceed with the other parts of the end phase as arranged in Table I. They include observations of mother and nurse after the nurse has arrived and when the nurse departs.

After arrival the nurse took the baby or received him from the mother who lifted the baby to her. On eight occasions the nurse asked a question or made a comment. In each instance the reason could be inferred from the record of observations. The nurse asked if everything went well (Case 7, I). The feeding had been a difficult one on the second postnatal day. A nurse asked if the baby had finished. The mother said "I don't know" (Case 11, III). The nurse may have wished to wait awhile until the sucking phase had ended, a possibility considered in the previous section. A nurse told the mother the feeding would be better next time (Case 13, II). It was a painful feeding and an unsuccessful one. Judging by the next feeding observed the nurse's prediction was true. A nurse again asked if the feeding went well (Case 14, I). Her question apparently had reference to the fact that the mother had pre-

left with the baby the mother's relational behavior to the baby came to a halt. The time of the interval phase and the moment when the nurse arrived were utilized presumably for the incompleting responses to baby or nurse when such needs were felt.

### SECTION IX

Study of the end phase began with an attempt to find out why when the nurse returned some mothers were still nursing while others had stopped. A consistent difference was found in regard to the most and the least successful feedings. In that respect the baby's sucking response was the determining factor, though limited to the A and the E feedings.

End intervals were then studied for content, in terms of presence and absence of positive social response to the baby. It was found that a positive social response was more likely to occur when the feeding was successful. This finding covered all the feeding classifications. It was not consistent with maternal attitudes excepting for marked deviations from the rule. The two most maternal mothers gave a positive social response to the baby after a feeding failure. The one least maternal mother gave no positive social response after a feeding success.

After the study of end intervals was made in regard to their presence or absence, and to content, other intervals that occurred during the feeding phase were added to them. The immediate sequences of behavior ending in an interval were then examined. The most frequent sequence-pattern indicated consistently unsuccessful stimulating activity. The intervals per feeding in most instances lasted a few to 10 minutes. All the intervals that were longer than 10 minutes, but one, were in unsuccessful feedings that occurred on a first or second postnatal day.

Excepting the first 2 postnatal days the mothers used all their available time to keep the baby at the breast. When their efforts to do so were unavailing or rendered difficult because of pain or discomfort they persisted up to the last five or ten minutes. They took less time out when sucking continuity could be maintained. Once they decided to stop, various factors, some of them fortuitous, hurried or delayed them. In one instance only it seemed reasonable to assume that the mother welcomed the infant's temporary cessation of sucking as an opportunity for fondling him. For 2 of the

of maternal feelings. It is interesting also that the one mother who at this stage said the baby was very bad was below average on the scale.

In feeding 16, III, a B feeding, the mother withdrew the breast, handed the baby to the nurse and resumed her conversation with her neighbors. The mother concerned was the lowest ranking mother of the group.

In 18 feedings no conversation ensued between nurse and mother after the nurse returned.

The observations in general revealed interesting bits of information but gave no opportunity for differentiation of the factors employed in the investigation, excepting for the instances of marked and noteworthy deviations of behavior.

### SECTION VIII

When the nurses left mothers generally gave no evidence of response to the baby (25 of 36 feedings). Four mothers said goodbye or an equivalent expression (Cases 7, III; 8, III; 11, II; 15, II). In each case the expression was used by each one of them after a single feeding. An additional remark was added in Case 8, III, "I hope you like your bottle better and don't spit up." The baby was to be changed to bottle feeding because the mother's nipples were cracked and bleeding. Kissing sounds followed the goodbye in another case (15, II). Mothers kept watching the departing figures in seven instances (Cases 9, I; 21, I; 23, I, II; 25, I, II, III). The mothers who watched or said "goodbye" rated above average and below. No relation of the responses were found to feeding or interval phases.

Three mothers sighed (Case 9, I, III), groaned (Case 10, I) or closed their eyes (Case 10, I, 11, II). Their feedings revealed evidence of pain or fatigue. In one instance a mother turned to read a newspaper (Case 18, II, a frustrating feeding failure); another turned to talk with other patients (Case 24, I, a painful and frustrating feeding). In this group again mothers were found who rated above average and below.

Maternal response when the nurse left with the baby confirmed some findings already evident during the feeding period. The one finding of interest was the absence of response. Only 2 mothers responded by watching in more than one of their feeding periods (Cases 23 and 25). On the whole it appears that when the nurse

## CHAPTER 6

# MATERNAL ATTITUDE

## SECTION I

IN this chapter we shall consider all the findings in which the mother's response to the baby could be differentiated by maternal attitude, that is, by affection for the baby. It will be remembered that the first method employed for this purpose was to test the opinions of those who first read the records and scored each observation unit with a symbol representing a positive or negative attitude or neither. The details are discussed in Chapter 1. When a particular kind of behavior was regarded as evidence of affection or lack of affection for the baby it was then tested by comparing the most and the least maternal women in regard to it. If both revealed the same kind of behavior it was clearly not differentiating. Thus the baby received a greeting when it was brought in for a feeding or a visit by mothers who were at either extreme on the scale of maternal feelings. As explained in Chapter 1, the lack of differentiation of a behavior does not furnish proof that the behavior contains no affection. It means that it cannot be differentiated by our method of investigation. We can test the differentiation in regard to the greeting itself in various ways, by considering not only its presence or absence but also its special qualities and the variety of conditions in which it occurs. We found that the determining factors for the presence of a greeting was the condition of the baby at the time the mother first saw it. We found also that the quality of the greeting had a possible differentiating value for maternal attitude. This all meant that if affection was present in every greeting its behavioral expression was too elusive for the method employed in finding it. It was not elusive when the quality of the greeting, as analyzed by means of its specific content, was considered.

The opinions of those who first judged the records were tested also by comparing the behavior of mothers above and below the



26 interval phases the determining primary factor appeared to be maternal attitude.

Feedings containing no interval phases at all were next considered. As compared with the others those which were successful were characterized by continuous sucking with little or no stimulation or with continuous response to stimulation and immediate evidence of sucking readiness when attempts to withdraw the breast were made. The few unsuccessful feedings in the interval-free group were characterized by marked persistency of stimulating activity in 2 cases and marked passivity in a third which remained interval-free only because of prolonged nipple retention by a sleeping baby. It was clear that the primary factor in determining the presence or absence of an interval in the successful feeding cases was the sucking pattern, a finding which could be applied to both A and B feedings when to the first study of end-intervals preliminary intervals were added and immediate sequences preceding the intervals were also investigated.

Persistency in nursing as long as time allowed was characteristic of the group. Graduations in this respect revealed no clear differentiation of maternal attitude. Persistency of a high degree was revealed by several mothers below the average in this respect. Persistency was thus thought to be due to factors not necessarily related to maternal attitude.

When the nurse took the baby after her arrival conversation was initiated by nurse or mother in one half the number of feedings. Interesting bits of information were revealed which pertained chiefly to successful A and B feedings and to feeding failures. The instances of marked deviation of behavior (handing the baby to the nurse while talking to others, telling the nurse the baby was very bad, a final pat in 2 cases) were consistent with the ranking in regard to maternal attitude (2 low and 2 high ranking mothers).

When the nurse left most mothers gave no response to the baby. Those who did either said goodbye and added other remarks or simply watched as nurse and baby departed. No relation of those who responded in this way was found with maternal attitude, the type of feeding, or the presence or absence of an internal phase.

sible only for 2 mothers. They represented the most and the least maternal members of the group of nursing mothers.

Now let us review the kinds of responses attributed to maternal attitudes by those who first judged the records and which on further analysis were found to be differentiated by factors other than maternal attitude.

The findings listed in Table I may be summarized by saying that the behavior of the nursing mothers in response to the baby was accounted for largely by the infant's sucking behavior. They include the mother's anticipation of the difficulty in getting the baby to suck, her difficulty in initiating the sucking, overcoming the baby's resistance, adapting the pattern of stimulation to changes in the baby's pattern of sucking, and maintaining the sucking in spite of pain or fatigue.

Since the infant's behavior during the feeding period was the main influence in determining the mother's response the discernment of maternal attitude within the response must take the infant's behavior into consideration. This behavior has been revealed by means of feeding classifications and their further subdivisions according to postnatal day, pain, frustration, etc. In general we may say that the more difficult the feeding the more difficult the discernment of maternal attitude, since in that case the maternal behavior is so involved with the task itself and the resultant fatigue or pain that maternal attitude has little or no opportunity for expression. Further, under such conditions evidence of maternal attitude, positive or negative, would then more likely be revealed if at all only by those very high and very low in maternal feelings.

## SECTION II

Testing subjective judgments of maternal attitudes was helpful in outlining a method of identifying them by analyzing the observations. The same steps were used. The first was a search for the attitude in the behavior that differentiated the extremes. The next was a test of a differential when found for the upper and the lower half of the group. The third step was the same test applied to the ranking of each member of the group. Assuming errors in the ranking of the individuals because of deficiencies in the scale, such errors would be least likely in differentiating the extremes, less likely in differentiating the upper half of the group from the lower, since the former would presumably contain more above-average

median of the group and by comparing the individual members according to their ranking on the scale derived from interviews. Although the averages of the numerous scores of maternal attitude made by the four judges showed a fairly significant and positive correlation with the scores derived from interviews, analysis of the presence and absence of each kind of maternal behavior showed little differentiation of maternal attitude. For example even roughness in handling the baby and scolding were found in the behavior of mothers who were the highest and lowest, above average and below average according to our estimates of maternal feeling. Frustrating efforts in getting the baby to suck were evident when such behavior was manifest. The discernment of maternal attitude within the patterns of activities for this kind of behavior was pos-

TABLE I

BREAST FEEDING CASES: COMMONLY FOUND DETERMINANTS OF  
MATERNAL RESPONSE

<i>Maternal Response</i>	<i>Factors Most Frequently Found</i>
1 Greeting the baby on arrival.	condition of baby; crying, asleep or awake and quiet
2 Forceful stimulation.	frustration feedings.
3. Scolding the baby.	frustration feedings.
4. Paucity of stimulation.	postnatal day; vigor of infant's sucking
5. Very frequent stimulation.	infant asleep; lack of sucking response.
6 Restlessness and muscular tension	pain; fatigue.
7. Gazing, staring and other forms of expressionless looking	pain.
8 Frequent talk to baby.	frustration feeding
9. More frequent talk to nurse, observer and others than to baby.	painful feeding.
10. Distraction; talking to others or reading during the feeding phase.	pain, frustration
11. Failure to stimulate when the baby's sucking slowed down.	pain.
12. Alert relational behavior. Absence of expressionless looking, passivity, or restlessness	feedings classified as D or E.
13 Termination of feeding before the nurse returned	feeding failures (E).
14 An interval longer than 10 minutes during which no attempts to initiate sucking were made.	feeding failures on first or second postnatal day.
15 Feedings continued to the end without interval	infant's pattern of sucking vigorous and quickly responsive to stimulation.

the test of group differences of response when the contrasting situations were found in the observation periods of the same individual.

Table II includes every comparable situation in a feeding period in which a marked deviation of maternal response occurred. The deviation represents the most positive or negative, or the exclusively positive or negative response presumably indicative of maternal attitude. These comparisons are helpful in a number of ways. They give us our first and surest measure in the task of differentiating maternal attitude since the measure is that of the largest divergence of behavior from which the attitude is derived. By contrasting the behavior of the most and the least maternal they give us a possible range of the behavior that is depicted in each situation if such a range exists, by indicating its most positive and negative representation. The word "situation" is used in the table as a convenient and rather loose term for any part of the observation period when a particular kind of activity occurs. It is that scene of the play when maternal response takes place under the conditions set forth.

The table of the marked deviations of response (Table II) offers also a measure of consistency of the most and the least maternal. Whenever they are available for comparison with others in any given situation how likely are they to manifest the most positive or negative response? In constructing the table a close resemblance was found in the behavior of the 2 highest ranking and the 2 lowest ranking mothers. That finding reduces the anomalous quality of the mothers in the extreme positions. Further evidence of their comparability with the others can be found in those situations in which their responses are not exclusive, but readily matched with the others in a series. Further indications of their resemblance to the others in regard to attitudinal behavior will be found in Table II in those few instances in which other members of the group were coupled with them.

individuals than below-average, and most likely in differentiating the individual members of the group, since the "true" position of each individual requires the finest discrimination. The weaknesses of the interview scale are set forth in the appendix. They apply particularly to the middle third of the group. Improvements in the scale will not affect the value of a finding. They will determine more accurately the ranking of the individual for whom the finding is true.

The behavior of the highest and the lowest maternal individuals of the group was not peculiar. That is important since the danger of using extremes as criteria of differentiation lies in their alien quality, their lack of any place at all in a series. The proof that they are rightly comparable is seen in the similarities of their behavior with the others, in similar differences of response to different situations, and in the fitness of the details of their behavior in a series involving the entire group. Many examples are available in previous chapters. As a further example consider the findings derived from Table IX and X in Chapter 4 on maternal passivity. The two lowest maternal women revealed the highest frequency of failures to respond to the baby under the conditions enumerated. Other mothers however revealed similar failures of response under the same conditions. The two lowest maternal were similar to the highest maternal and to those above average in responding some of the time and all of the time under some of the conditions set forth. The two highest maternal never failed to respond. In that respect they were similar to 8 other women. The upper half of the group was clearly demarcated from the lower half in regard to the factor investigated. When applied to each mother according to her ranking, the factor of maternal passivity was found to be a poor differential for mothers above the median, a fair differential for mothers below. (The reason is due in part to the fact that the differential was dependent on the frequency of certain types of difficult feedings which were not evenly distributed among the group.)

The interview rankings were helpful particularly in the task of discriminating those deviations of behavior which were more likely to represent maternal attitude. Other tests of attitudes followed the same procedure as in the testing of other behavior, comparisons of the behavior in comparable relationships of mother and baby, in comparable feeding difficulties, in their inner consistencies, and in

TABLE II (Continued)

	Maternal Response		
	<i>The Two Highest Ranking Mothers</i>	<i>The Two Lowest Ranking Mothers</i>	<i>Others</i>
<i>Situation</i>			
5 Stimulations in D and E feedings in first three post-natal days	Cases 18 and 23 in the group	Case 16 had smallest number of variety and frequency (1 and 2) Case 20 in the group	Case 21 had largest number of variety and frequency and used strongest stimulation Rank 11 5 of the 15 nursing mothers
7 feedings, 7 mothers <sup>5</sup> (From Chapter 2, Tables I and II)			
6 Passivity Lack of stimulation following the baby's sucking movements and other incentives to stimulation	Cases 18 and 23 in the group	Cases 16 and 20 were the least responsive (Total number of failures of response, 4 and 5 per feeding)	
36 feedings, 15 mothers <sup>6</sup> (From Chapter 4, Table IX, and X)			
7 Distraction Talk unrelated to baby, attending to conversation or activities of other patients, reading during feeding period	Item studied for entire group Cases 18 and 23 gave no evidence of distraction	Case 16 showed highest frequency and duration of distraction Case 20 in the group	
11 feedings, 7 mothers <sup>7</sup> (From Chapter 4, Table VIII)			
8 Interval phase Social response during end interval of A and B feedings	Cases 18 and 23 not in group	Case 16 was the only mother who did not respond to the baby Case 20 not in group	
8 feedings, 7 mothers <sup>8</sup> (Chapter 5, Table VI)			

TABLE II

## MARKED DEVIATIONS OF MATERNAL RESPONSE DURING FEEDING PERIODS

Situation	Maternal Response		
	<i>The Two Highest Ranking Mothers</i>	<i>The Two Lowest Ranking Mothers</i>	<i>Others</i>
1 Initial phase baby quiet and awake 8 feedings, 6 mothers <sup>1</sup> (Derived from Chapter 1, Table IV)	Case 18 smiling, stroking, regarding. Only mother with three types of response and only mother who employed stroking. Case 23 not in the group	Case 16 verbal ("good evening") One of two mothers with a single response of verbal form. Case 20 not in the group	Other was Case 21
2 Feeding phase frequency of stimulations in feeding failures (L) 10 feedings, 7 mothers <sup>2</sup> (From Chapter 2, Tables II, VI and VII)	Cases 18 and 23 had the highest frequencies (26 + and 23 +)	Cases 16 and 20 had the lowest frequencies (2 and 5)	
3 Persistent patterns of stimulation in unsuccessful feedings 7 feedings, 7 mothers <sup>3</sup> (From Chapter 2, Table XI and text)	Case 18, mildest pattern in a frustration feeding with active resistance on part of baby (Case 23 mildest pattern of stimulation of all seven but active resistance was minimal)	Case 20, only pattern whose sequence began with hard hitting, instead of gradations of mild to strong stimulations in a frustration feeding with active resistance. Case 16 not in the group	Other was Case 10 who ranked 11.5 of the 15 nursing mothers. Only mother who restored breast and gave affection in same sequence was Case 8, highest ranking of the eight
4 Painful breast feeding 21 patterns of response, 8 mothers <sup>4</sup> (From Chapter 3, Table II and text)	Cases 18 and 23 not in group	Case 20 was only one of two mothers who consistently did not restore breast or display affection to baby after expression of pain. Case 16 not in group	

In each situation in Table II, 1 or more of the 2 highest or lowest scoring mothers was present. In each situation one of them was the single individual or 1 of 2 who deviated markedly from the others. In 3 situations a marked deviation included 1 member of the group other than the 2 pairs that ranked highest and lowest (Cases 4, 5, 10). In 2, a low ranking mother was coupled with one of the lowest ranking pair. In the other the 2 top ranking mothers were not present. The deviation, consistent with a positive response, was true of the highest ranking mother that was present.

In 10 situations 10 varieties of maternal responses while breast feeding were represented. In 7 of the 10 situations in which only parts of the group could properly be compared the combinations of individuals were different in each case, and every member of the group but 1 (Case 15) was present in 1 or more of them. Thus we may say that in a large variety of situations in which comparisons could be made of all the members of the group one or the other of the mothers who ranked lowest or highest could always be identified by marked differences in her behavior.

As compared with the others the differences appeared in the pattern of the greeting, persistency in stimulation during unsuccessful feedings, in the patterns of stimulation, in response to the baby's readiness to suck, in passivity, in distraction, and in response during interval and end phase. Comparing only the highest and the lowest ranking mothers in the breast feeding group we may summarize the findings by saying that the former were more tender to the baby, alert to his needs, persistent in satisfying them regardless of the baby's resistance, and more demonstrative in the display of affection.

The marked differences tell us how presumably the most and the least maternal women revealed differences in maternal attitude under the conditions in which they operated. They do not tell us the complexity of feelings in the attitude; how much of it, for example, is "pure affection". We have learned that of the 8 mothers who withdrew the breast because of pain the 2 lowest ranking were the only ones who consistently did not then restore the breast or display affection to the baby. Display of affection however may have been due to a feeling of guilt or of pity for not restoring the breast or for having retributive impulses toward the baby because of the pain, or a combination of such feelings and also affection. They do tell us, however, the kinds of behavior that differentiated



TABLE II (Continued)

Situation	Maternal Response		
	<i>The Two Highest Ranking Mothers</i>	<i>The Two Lowest Ranking Mothers</i>	<i>Others</i>
9 Interval phase Social response during end interval of E feedings 7 feedings, 5 mothers <sup>9</sup> (Chapter 5, Table VII)	Cases 18 and 23 were only mothers who responded to the baby	Cases 16 and 20 in the group	
10 End phase Response to baby when the nurse took or received the baby in readiness for departure <sup>10</sup> All breast feeding mothers (Chapter 5, Table I)	Cases 18 and 23 were only mothers who patted the baby	Case 16 was only mother who handed baby to nurse and then continued her conversation with others Case 20 in the group	
	<sup>1</sup> Cases 8, 11, 13, 16, 18, 21 <sup>2</sup> Cases 9, 16, 18, 20, 21, 23, 25 <sup>3</sup> Cases 7, 9, 18, 20, 21, 23, 25 <sup>4</sup> Cases 7, 8, 9, 10, 13, 14, 20, 24 <sup>5</sup> Cases 13, 16, 18, 20, 21, 23, 25 <sup>6</sup> All nursing mothers <sup>7</sup> Cases 7, 9, 14, 16, 20, 24, 25 (but all nursing mothers studied for this item) <sup>8</sup> Cases 7, 8, 9, 11, 14, 16, 21 <sup>9</sup> Cases 16, 18, 20, 21, 23 <sup>10</sup> All nursing mothers		

quickly when her efforts are unsuccessful. Under the same conditions the latter is quite persistent. When the baby gradually gives signs of wakening and readiness for sucking in response to stimulation both mothers appear to increase their efforts consistently as the goal seems near. The former however may vary the pattern by using rough stimulations as the first signs appear. In contrast the latter is generally milder and the stimulations may recoil from rough to mild as the pattern proceeds. When as a result of their persistent efforts both mothers are at the threshold of success and are then frustrated by the baby's active resistance to sucking they reveal evidence of annoyance. The more maternal expresses her annoyance in a milder way.

During painful breast feedings the low maternal mother immediately after the cry of pain may not restore the breast or display affection to the baby. The high maternal mother does both.

During painful feedings and other feedings presumably uncomfortable or at least attended by abdominal or pelvic sensations, both reveal some evidence of failure to activate the baby's sucking or respond to signs of his sucking readiness. Under such conditions the low maternal mother is much less responsive.

The low maternal mother in marked contrast with the high gives evidence while nursing the baby of distraction in the form of talking to others, observing them, listening to their conversation or reading.

When time is taken out for whatever reason during successful feedings mothers generally respond to the baby in a positive way. When such time is taken out during feeding failures mothers generally do not respond to the baby. Under these conditions the low maternal may not respond to the baby even when the feeding is successful; the high maternal mother may respond in a positive way even when the feeding is a failure.

When the nurse takes the baby at the end of the feeding and is ready to leave the low maternal may pay no attention to him. The high maternal remains attentive and caressing.

As described above the maternal response represents our surest differentiation of maternal attitude. That is due to the fact that it has been limited as explained previously to the largest deviations. These deviations have been found consistently among the responses particularly of mothers who were easily identified as the most and the least maternal of the group.

the 2 least maternal from the others. The 2 most maternal mothers were not available for comparison in the situation described. Of those present the highest ranking mother (Case 8) was the only one who combined both responses of restoring and display of affection in the same behavior sequence. Assuming that her response contained an alloy of affection and other feelings we are unable to determine their relative values. However the differential value of the behavior remains \*

### SECTION III

For convenience in making a detailed comparison of the mothers represented in Table II let us ascribe all the deviations to a high and a low maternal mother. We may then say that when the baby is brought in by the nurse for a feeding, quiet and awake, the low maternal greets the baby with no more than a "hello" whereas the high maternal mother is effusive. When the baby is asleep and gives little or no signs of readiness to suck the former will make an effort to waken the baby and initiate the sucking but stops trying

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\*The top ranking mother, Case 18, was available for comparison in 8 situations. In 5 she was the only 1 or 1 of 2 who gave the most positive response. In the other 3 situations her response was positive but not outstanding. (A scrutiny of the situations will reveal that they differ in the opportunities they provide for both positive and negative deviations. Thus situation 5 offers too narrow a range of positive response but an easy deviation for a negative one.) Cases 18 and 23 were together in 7 situations and responded similarly in each. Both were the most positive of all in 4 and on the positive side though not outstanding in 3. In the latter instance no one else was outstanding. In the 4 situations in which they were the most positive of all Case 18 was somewhat more so in 2 (situations 2 and 3).

Case 16 was available for comparison in 8 situations. In 5 she stood alone and in 2 she shared with Case 20 the most deviant negative response. In the one position in which she was not outstanding her response was not positive. She was present with Case 20 in 6 situations. Her response was more negative than Case 20 in 4, less so in 1. In the 1 situation when both were present and not outstanding on the negative side no other member of the group was outstanding. Case 20 was also available for comparison in 8 situations. Always on the negative side she was 1 of the 2 most deviant in 3 and the only member of the group with a marked negative response in 1.

The table confirms the rankings of the first and second (Cases 18 and 23) and the fourteenth and fifteenth position (Cases 16 and 20). Case 8 was the only other member of the group who was found among the marked positive deviations. Cases 10 and 21 were the only others found among the marked negative deviations. Each of the 3 occurred in a single situation. This finding is also consistent with their rankings on the interview scale.

In Table II situations were listed in which the sharpest contrasts of maternal response were found. They delimited chiefly the 2 highest and the 2 lowest ranking mothers. The rankings could be made independently of interview scores. Before we arrive at the stage of "objective" ranking based entirely on the analysis of observations it may still be useful to retain the "interview" rankings. Now we will apply them to situations in which all or nearly all members of the group were present and in which their responses differentiated most of them.

Responses and failures to respond, classified as passivity, the quality of response and amount of time taken out in the interval phase were found to satisfy the conditions stated. They divide most of the mothers in the group of 15 in 3 divisions, an upper 5, a lower 6, and a midgroup of 4. We can add more situations and make further tests of the accuracy of the interview rankings. However we are now ready to determine the differential values of the observations for attitude without other aids.\*

\*From Tables II and III the group is divisible as follows: Cases 8, 13, 15, 18, 23 in the upper; 10, 11, 14, 16, 20, 21 in the lower; 7, 9, 24, 25 in the mid range.

## SECTION V

In this section we will review the findings of maternal attitudes in the observations of behavior during feeding periods, try to increase their number, and study their meaning. We have learned that they are discernible in varying degrees depending on the kind of situation under scrutiny, the baby's response, and the mother's affection for her baby.

The situations offer varying degrees of facility for the expression of affect, much or little, positive or negative. The yield may be derived from a single, a few, or every member of the group. The yield may be in the form of a negative type of response or positive or both. After each situation is explored the findings will be listed in a summary table that follows the text. References to the table will help the reader keep in mind the manner and the consistency of response of the different members of the group. For each comparison that is made the case numbers are cited. The table contains also references to previous tables from which findings were derived.

Each situation differs from the others in regard to the kind of behavior, the conditions under which it occurred, or the composition of the group (the case numbers).

## SECTION IV

TABLE III

RESPONSE OF NURSING MOTHERS TO THE BABY ACCORDING TO THEIR  
"INTERVIEW" RANKINGS

(Rank Order of the 15 Breast-Feeding Mothers)

Case Number Rank	Above Median						Median	Below Median					
	18, 23, 8, 15, 7, 13, 24	25	9, 14, 10, 21, 11, 20, 16	1	2	3	4	5	6	6	8	9	5, 9 5, 11 5, 11 5, 13, 14, 15
1a Passivity Failure to aid the baby's sucking under conditions listed other than slowed sucking												14, 10, 11, 20, 16	
1b Passivity No failure to aid the baby's sucking under conditions listed (Chapter 4, Table X) All nursing mothers	18, 23, 15, 13										9		
2a Passivity One or more failures per feeding under all conditions listed	24										25	10, 11, 14, 16, 20, 21	
2b Passivity Less than one failure per feeding (Chapter 4, Table X)	7, 8, 13, 15, 18, 23										9		
3 Interval phase Highest category of response <sup>1</sup>													
A	8, 13, 18, 23										25	9, 10	
B	7											21	
C												14, 11	
D												16, 20	
(Chapter 5, Table VIII) 13 mothers, 26 interval phases													
4 Interval phase Time taken out in A, B, or C feedings and late D and E feedings 8 minutes or longer												9, 10, 14, 16, 20	
Less than 8 minutes	7, 8, 11, 13, 15, 18, 21, 23, 24										25		
(Chapter 5, Table VIII) 29 feedings, 15 mothers													

<sup>1</sup> For determination of categories of response see Chapter 1

(as in "regarding") and is the kind of utility response that is difficult to differentiate. "Regarding" is similarly a response that is difficult to discern as affect when it is seen in isolation. Observations selected for the scoring of attitude are best limited to those which are clear-cut.

### Feeding Phase

We have learned that mothers use milder forms of stimulation in the first part of the first postnatal week, that their methods of stimulation vary greatly in regard to frequency, variety, and force, depending largely on the baby's sucking response, and that when their efforts to initiate sucking are frustrated they use the strongest stimulations and display evidence of annoyance.

The statements made apply to all the mothers of the group with two possible exceptions. One of them was Case 7 who used rough stimulations on an early postnatal day (Chapter 2, section VIII). The exceptional pattern of stimulations can be explained by the fact that the baby sucked vigorously for 10 minutes and thereafter when the mother tried to reactivate the sucking gave a number of signs of readiness to suck, besides active resistance, which reenforced the stimulating activity. The other exception was Case 21 whose stimulations were unusually persistent in an early postnatal day in the absence of "incentives" on the part of the baby (Table V, situation 3.)

Nine mothers had 1 or more D and E feedings. The 9 included Case 18, our presumably top ranking mother in regard to maternal attitude. She had the highest number for variety and frequency of stimulations during "late" D and E feedings (variety 11, frequency 26+). Case 23 was next with a frequency of 23. In the same category of feedings, Cases 10 and 16 had the lowest number for variety and frequency (variety 0, 1; frequency 0, 2). As shown in the table the highest numbers were not as sharply contrasted as the lowest. We have surmised previously on the basis of the study of sequences of behavior of mother and infant that persistency in keeping the baby sucking which results in the high count of stimulations may or may not represent a maternal attitude. As a deviation it is problematic for maternal attitude although in Case 18 it most likely has that implication. Deviations on the negative side since they imply much less effort and hence concern for the baby when the feeding is difficult appear to be a safer selection (Table V, situation 4).

### Initial Phase

We have learned that when the baby was brought for a feeding and not for a visit there was a marked contrast in the mother's display of affect. In feeding periods affect was curtailed or absent, and the condition of the baby appeared to influence the response. When the baby was brought in quiet and awake there was always a response (7 feedings). When brought in crying (11 feedings) or asleep (18 feedings) there was no response in most instances.

The absence or presence of response was not found to be differentiating for attitude. A differentiation was found in the pattern of response. Case 18 was the only one of the nursing mothers who stroked the baby (besides smiling and "regarding"). In her case the baby was brought in quiet and awake. Under the conditions stated there were 6 mothers available for comparison, of which 2 (Cases 16 and 21) gave the "least" response, a verbal greeting unaccompanied by a smile. Since for reasons stated previously we were surest of the positions of Cases 18 and 16, the highest and the lowest on a scale of maternal attitudes, the findings appeared to be consistent in regard to them. Of the others Case 8 appeared to be the most positive in her response. Her response to the baby quiet and awake was laughter, and to the crying baby, excitement, laughter and squealing. Under the same conditions, excepting Case 18, the responses of the others consisted of smiles, words, and cooing. Case 8 was the only mother who gave so strong a positive response to a crying baby. Case 18 was not available for comparison under those circumstances (Table V, situations 1 and 2).

When the baby was brought in asleep the responses when they occurred (4 of 18) were all limited to smiling, regarding or cooing.

In regard to the differentiation of responses that represent affect some precautions should be added to those set forth in Chapter 1. The initial phase response is best not counted, when there is an extraneous interference with it; for example the remark of a nurse that may block it (as in Case 7, II), or a situation in which the wrong baby is first brought in (Case 15, II). Smiling, talking, or cooing separately or in combination were not found to be differentiating for attitude. They may be performed however in a manner that lifts them above the usual pattern as later observations may show. The tactile response of simple holding was finally left out of consideration as an affect-response. It is an ancillary activity

## Painful Feedings

Comparisons of maternal response during frustration and pain revealed a sharp contrast. Frustration was followed by expressions of annoyance, impatience or anger at the baby. Pain was followed by such manifestations in only one instance (Case 7) and that was a mild example.

The clearest differentiation for attitude was derived from the finding that after the expression of pain the mother typically restored the breast or displayed some form of affection to the baby. In 2 cases there was consistent failure to do so (Cases 10 and 20). In the display of affection there were differences in response corresponding to the categories classified in Chapter 1. Case 8 was the most affectionate according to these criteria. Cases 13 and 14 also used patting or stroking movements (Table V, situations 9 and 10).

Other findings presumably indicative of attitude were derived from responses indicating provocation. The only immediate evidence was the verbal response of Case 7 ("Ow! You hurt, you bad girl."). The others were in the form of increased stimulations immediately or shortly after the expression of pain (Case 20 and 24) and indirect critical or angry words a step removed from the vocalization of pain (Case 8, "That aggravated me," etc. in response to the baby's regurgitation; Case 24, "Shut up," while burping the baby). In each instance the presumed provocation was followed by display of affection excepting by Case 20 whose reaction also of hard body shaking after a groan was the most clear cut. Other than the instances provided by Case 20, they might best be omitted as indicators of attitude since in the practical task of scoring they may lead to inferences that are not valid (Table V, situation 11).

The difficulty in differentiating attitude during painful feedings lies in gauging the severity of the pain or discomfort that is experienced. Assuming a lack of affection for the baby we would anticipate an increase in the response to pain as measured by the number of vocalizations, etc. Affection for the baby might act to reduce the number of such manifestations. The problem arises when the experience of pain appears to pervade the entire observation period (as in Case 24, II). Our differentials in such cases have been obtained by comparisons of the similar types of experience



When we limit the comparison to E feedings only, Cases 16 and 20 have the lowest number for variety and frequency (variety 1 and 3, frequency 2 and 5), and the others are relatively much higher (Table V, situation 5).

The reader may remember that no indications of attitude were found in the selection of anatomical sites or in the favorite methods of stimulation.

When mothers persisted in activating the baby's sucking in spite of failure a situation arose which was apparently charged with feeling. No differentiation for attitude was found in regard to presence or absence of forceful stimulations or in evidence of annoyance. Contrasting differences were found in certain details of their expression. Such differences were scrutinized as possible indicators of attitude. It was anticipated that a frustrating experience particularly would provide an overt conflict arising out of a struggle against a strongly resistant baby. It is important to note in detail the baby's "incentives" to the pattern of stimulation and especially his active resistance. They help to give the full measure of the mother's difficulty. With these considerations in mind the contrasting patterns of Cases 18 and 20 are striking. The pattern of Case 18 during frustration was the mildest (see Chapter 2, section XIII). The pattern of Case 20 was the roughest. It was also the only pattern whose sequence began with hard hitting instead of gradations from mild to strong (Table V, situation 6).

If we use frequent shaking and rolling of the body as an index of rough handling and hence of attitude, mothers 7 and 20 stand out from the rest (Table V, situation 7).

During periods of frustration eight mothers expressed their annoyance verbally. A review of their remarks will show varying degrees of control. Four mothers (7, 9, 16, and 21) told the baby he was nasty or bad, in contrast with the other 4 (Table V, situation 8).

Case 18 was available for comparison in this group. Considering the type of frustration and the frequency of her talk to the baby she was outstanding in sparing the baby any direct derogatory remark. However the amount of control exerted in this respect is not sufficiently clear cut for the purpose (see Chapter 3, section V) of selecting as indicators for attitude only well defined behavior.

Distraction in the form of conversation with other patients was found in some instances by analyzing pain - sequence and frustration patterns to be an integral part of them. The distraction was probably a way of reducing tension. Of eleven feeding periods in which distractions occurred (Chapter 4, Table VIII) seven contained direct evidence of pain or frustration and one contained strong indirect evidence. Three mothers manifested distraction (talk to other patients) in the remaining periods (Cases 7, 14, 16). No. 16 revealed the highest frequency of distractions of this form (13 feedings, 7 mothers — frequencies by number of observation units: Case 16 = 8; Case 14 = 2; Case 7 = 2). Distraction in the form of reading during the feeding phase (which should be distinguished from reading during the end phase) was seen in Cases 16 and 20 only. Case 20 may now be added to the 3 other cases as manifesting distraction presumably indicative of attitude (Table V, situation 14).

The positive side of this behavior would be shown in the absence of distraction particularly in painful feedings. The assumption would then be made that the mother gave evidence of affection by maintaining relationship with the baby undeterred by feeding difficulties or happenings in room or ward. We learned from previous studies however that the absence of distraction was not differentiating for attitude in our investigation. It may be found to be so in a larger series of cases.

### Passivity

Failure of maternal response when the baby manifested behavior that typically evoked stimulation and other help in feeding was found to be differentiating for attitude (Chapter 4, section XVII). Excluding "slowed sucking," failure to respond to the "incentives" listed included 5 cases, of which Cases 16 and 20 revealed the highest frequency per feeding and in that order (Table V, situation 15).

As explained previously the failure to respond to slowed sucking is more difficult to gauge. The high frequencies were found in painful feedings. It may be assumed that the tendency to withhold the breast and the tendency to postpone or withhold activation of sucking during periods of pain would come in conflict with various feelings including affection for the baby. The "least" manifestation of unwillingness to continue the nursing would be revealed in

and estimates in the manner described of their severity. Some feedings may be found to be too painful, if not too frustrating, to utilize as a measure of attitude.

Sequences of behavior following the expression of pain were not included for consideration with the others when they came near the end of the observation period. Resumption of nursing at such a time besides other patterns of behavior was complicated by the problem of immediacy in cessation of feeding.

Frequency of breast withdrawals after the expression of pain was not found to be differentiating for attitude. However only 5 mothers could be compared for this behavior. Furthermore the highest and lowest scoring mothers were not among them. It may be assumed that at least the number of withdrawals or the quickness to withdraw might be influenced by the feeling for the baby. Case 24 may furnish an instance in which a mother in spite of pain held out until the nurse's arrival. Then she said, "Thank God!" (Chapter 4, Table I). The group of 5 included mothers above and below the average. The differentiation may possibly hold only for the extremes. In any case breast withdrawal as such, like the vocalization of pain, may be too problematic as a source of study for attitude. The behavior that follows it as noted above yields an easier discrimination.

### **Tension, Distraction, Passivity**

Visual behavior including the various forms of expressionless looking was not found to be differentiating for attitude. Some of the visual items like gazing and staring were found in close sequence with pain or other bodily sensations. Some were apparently due to self-consciousness. Others had different connotations (Chapter 4, sections V - VIII). As attitude indicators the visual items were not lost when they were seen in combination with passivity (failure to aid the sucking) since the latter was found to contain attitude indicators more readily identified.

The frequency of conversation as measured by the number of observation units per feeding in which it occurred was not found to be differentiating for attitude. The frequencies, the person addressed, and the topics of conversation were found to be related to frequency of stimulation and to pain (Chapter 4, section X - XIII).

15 feedings. Arranging the 9 cases according to the frequency of passivity per case we have the following order: Cases 16 and 20, frequency 5; Cases 14, 11, 21, frequency 1; Case 7, frequency less than 1; Cases 8, 18, 23, frequency 0 (Table V, situation 17).

We have left for consideration the absence of passivity in painful feedings containing such direct evidence of pain as breast withdrawals immediately following vocalization of pain (Chapter 4, Table XII and section IV). Of the 3 cases to consider Case 14 was eliminated because the mother who had complained about the pain was told to limit the feeding to 10 minutes. The details have been considered in the reference cited above. Cases 8 and 13 were the only mothers who in spite of painful feedings gave no evidence of passivity, distraction, or even visual wandering and gazing (Table V, situation 18).

### Interval Phase

We have learned that when mothers were through with the feedings before the nurse returned they were much more likely to respond to the baby in a positive way when the feeding was successful. Social responses to the baby occurred during all but one of the eight A and B feedings. The one exception was Case 16. The response was present in 4 of the 13 end intervals of the C, D and E feedings. The only 2 who responded after an E feeding were Cases 18 and 23. That gives us our first differential (Table V, situations 19 and 20).

Differentiation when determined merely by presence or absence of any social response in the end phase, verbal or other, is a gross differentiation, in the sense that few members of the group can be selected thereby. The fewer the number that can be identified by a differentiation the more likely they are to be the most positive or negative members of the group in regard to maternal attitude, as the previous comparisons have shown. In regard to end phase everyone available for comparison yielded a social response when the feedings were classified as A. When the B feedings were added only one, the lowest ranking mother failed to respond. When the feeding failures alone were considered only the 2 top ranking mothers yielded a social response. Now when the C and D feedings are added, another high ranking mother (Case 13, one we can now put in that category on the basis of observations alone) appeared and at the same time, unexpectedly, a low ranking

postponing or neglecting stimulation when the sucking vigor diminished. The most obvious neglect in this respect would be revealed in failure to restore the breast when the baby's readiness or eagerness to suck was manifested by sucking movements, crying, or maintaining a good purchase on the nipple. Accumulation of data of this variety would afford a well defined and subtle measure of avoidance. The situation is complicated again by our difficulty in knowing how much pain and fatigue the mother had to contend with (see Chapter 4, section XX).

Nevertheless, in comparing mothers for this kind of behavior as for so many others we find a good consistency. If we limit the count of passivity to painful feedings only (excluding minimal pain; Chapter 4, Table XII) we have 6 mothers (8 feedings) to consider. Among these Cases 8 and 13 revealed no evidence of passivity. Case 24 who had 2 painful feedings, the second one particularly so, revealed evidence of passivity in the latter though only to slowed sucking. The remaining 3 members of the group, Cases 10, 14, and 20, all revealed passivity to incentives "stronger" than slowed sucking. The same consistency in regard to maternal attitude is found in four feedings of Cases 11, 23, and 25, feedings that may be regarded as painful in the absence of pain vocalization (see Chapter 4, section XVIII). Case 23 revealed no passivity, Case 25 revealed passivity to slowed sucking only, and Case 11 both to slowed sucking and to other "incentives." On the basis of the comparisons made three groups may be differentiated, Cases 8, 13, and 23; 24 and 25; 10, 11, 14, and 20. The finding that in a presumably very painful feeding there was a discrimination in type of passivity was a point in favor of the inference that a differentiation of attitude could be made under these conditions (Table V, situation 16).

In all 7 feedings characterized as frustration feedings (Chapter 4, Table XII) there was no instance of passivity. The explanation has been given in Chapter 4. Passivity will most likely occur under conditions of pain and other body sensations during or following breast feeding. Its occurrence under other conditions should presumably indicate a stronger differential for attitude than under conditions of vigorous and painful sucking. Under such "other conditions" Case 16 showed the highest frequency.

Eliminating all feedings that were found to favor passivity (pain and tension) and reduce it (frustration) we are left with 9 cases,

time. Mothers then apparently decided that the effort of reactivating the baby was not worth while for the little time that remained.

The duration of time taken out varied considerably, a point that was studied for possible differentiation of attitude (see Chapter 4, Table X). The time records were not exact for the duration of all the interval phases. Estimates of large differences however could be made. In 2 cases (Cases 10 and 21) more time was taken out than in any of the others during a late postnatal day. The time taken out, when 8 minutes or longer in A, B, C or late D and E feedings, could be ascertained for the entire group (from Chapter 5, Table VIII). Six cases (9, 10, 14, 16, 20, 21) could thus be separated from the others, all of them below the median as determined by the comparisons listed in the table up to this point (Table V, situations 22 and 23).

In 1 case (23) it appeared that after the baby stopped sucking early in the period, the mother used this opportunity to fondle the baby (Chapter 5, section III). In another case it appeared that the mother brought the sucking to a halt in order to avoid nursing the baby (Case 14). However there is more clear-cut evidence on which to base a differentiation of attitude and such instances therefore need not be included.

Of the total number of feedings about a third contained no interval phase. The fact that during a feeding period a mother took no time out, thought to be possibly indicative of maternal attitude, was not found to be differentiating. The explanation (Chapter 5, section V) in the interval free A and B feedings was revealed in the sucking pattern; its continuity, vigor, and ready response to stimulation. The absence of intervals in D and E feedings were readily explained also by factors other than affection for the baby (Chapter 5, section V). In Case 25 the problem of differentiating maternal attitudes manifested by persistency from other attitudes manifested in the same way, was facilitated, since the mother concerned took no time out in a difficult feeding during an early postnatal day, whereas the more and even the less maternal mothers did so.

As stated in Chapter 5 there was no evidence that mothers complained to the nurse that they wanted more time to fondle the baby or, excepting Case 13, to feed him.

Now we can consider the differentiating values found in the patterns of social response during the interval phase. The classifi-

mother (Case 10). The manifestation of affection on the part of Case 10 occurred during the longest interval of all (26 minutes) and in that sense is an exceptional finding (Table V, situation 21).

In Chapter 1 an analysis was made of the items of behavior representing the social response of mothers during the initial and end phase. It was found by comparing the behavior of the "extremes" and by the aid of a scale derived from interviews that though the number of responses had no discriminating values the quality of the response, i.e., when it included patting or stroking, had such a value in the end phase. Since then we have learned more about the conditions that determine social response in the end phase and have made a finer distinction, separating the end phase into two parts: the end interval before the nurse picked up the baby, and the interval during which the nurse picked up the baby and departed.

For study of response during the end intervals our next step was the inclusion of preliminary intervals since both represented time taken out of the feedings. We learned from the study of the sequences of behavior immediately preceding them that a number of intervals occurred towards the end of the period after the sucking gradually diminished and came to a halt. The mother apparently decided that the baby was through sucking. In 3 instances the baby gave some indication that he was ready to suck again and the nursing was resumed. An anticipated end interval thereby became a preliminary one. The special problems in deciding whether an interval constitutes a fair test of the mother's social response are discussed in the text following Table IX in Chapter 5.

A number of intervals followed unsuccessful stimulating activity in which case the mother apparently decided there was no point in going on since it was so unlikely that the baby would suck. The persistence in activating the baby was much greater in the latter part of the postnatal week. Intervals of the type described were limited in all but 1 case to D and E feedings. As anticipated the longest intervals occurred in the first 2 postnatal days.

The intervals following cessation or near cessation of sucking and failure to activate the sucking in unsuccessful feedings comprised most of the intervals that were found. The others followed a painful suck or other conditions that stopped the sucking (regurgitation, fatigue, accidental factors) near the end of the allotted

Such items as placing a hand on the baby's back, or feeling it, or fondling or "playing" with the baby's hand, as described in Chapter 1, were not included.

When the one highest category of response in an interval phase was noted for each feeding per case the following results were obtained (Table V, situation 24).

TABLE IV

CATEGORIES OF RESPONSE FROM HIGH TO LOW IN INTERVAL PHASES  
ARRANGED ACCORDING TO CASE NUMBER AND FEEDING CLASSIFICATION

Feeding Classifi- cation	<i>Categories of Response</i>				
	A	B	C	D	E
A	8, III 23, II	7, III	7, II	14, II	14, I
B	9, II	21, II		11, II	16, III 20, II
C	25, II				
D	13, II	10, III			
E	18, I 23, I	21, I			16, II 20, I 20, II

As indicated in Table IV the pattern of response when selected by its highest category does not appear to be altered by the degree of success in feeding. This is surprising in view of the relationship found between feeding success and presence or absence of social response. It would appear that when a mother responds at all during an interval phase her response is of the same or a similar order. (Note the consistency of the case numbers in this situation and the others. Note the same types of response in different feeding classifications of Cases 23, 21, 16, 20 and similar types of response of Cases 7 and 14.)

#### End Phase

We have learned that when the nurse was about to depart with the baby maternal behavior differentiated only the "extremes." Two mothers, Cases 18 and 23, were the only ones who then displayed affection (patting). One mother, Case 16, handed her baby to the nurse without interrupting her conversation with her neighbors (Table V, situation 26).



cations in Chapter 1 were made by comparing the behavior of mothers during feeding and non-feeding periods and checking the patterns against the behavior of the most and the least maternal woman and then against the behavior of each mother according to her ranking as derived from the interviews. A range of responsiveness was found with patterns including patting and stroking at one end of the scale, and absence of response at the other.

Before considering the later studies of these responses it may be pointed out that for the purpose of "scoring" they could be eliminated since, it is clear by now, there are a sufficient number of differentials for attitude without them. The reader who is interested in rating scales may regard display of affection as behavior that can be too easily simulated to retain its usefulness for long as a scoring device. When this complication will arise, the proof that it is an artifact will be made by the same methods employed for the test of consistency in this chapter.

The display of affection during the time taken out of a feeding should be more clearly revealed than when it occurs in accompaniment with feeding activities. Patting the baby while gazing at the ceiling, or patting the baby in a perfunctory way can be differentiated from the kind of patting that is definitely relational, as it is when accompanied by cooing, regarding, or smiling, etc. A review of the observation units preceding and following the specific activity will help in this task. In Case 10, third observation period, the mother gave up quickly when the baby actively resisted stimulation (unit 29 and 30). She then rocked and patted just before removing her mask. Then as the baby slept she held the baby close, looked at him, then smiled and rocked him gently (units 31, 32, 33). Two minutes later she looked at him again, stared into space, and while doing so gave him occasional pats. This passive type of behavior (unit 34) continued until the nurse returned 18 minutes later. Clearly relational behavior is ascribed to the display of affection observed in units 31, 32, 33.

The same categories of response as described in Chapter 1 were retained, excepting for the addition of another category to include responses limited to the single items smiling, laughing, regarding, or combinations of either smiling, laughing, talking or cooing with regarding. Such responses were placed in category D. Absence of response or talking and cooing uncombined with regarding or smiling or occasional looks at the baby were placed in category E.

TABLE V (Continued)

Situations	+ Case No.	— Case No.	No. of Mothers Compared	No. of Feedings Compared	Case No.	Reference
8. Talk to baby during frustration; Derogatory remarks (+ = absence of; — = presence).	15, 18 24, 25	7, 9 16, 21	8	8	7, 9, 15, 16, 18, 21, 24, 25.	Chapter 3, Table IIIb, section V.
<i>Painful feedings</i>						
9. Failure to restore the breast or display affection after expression of pain.		10, 20	8	8	7, 8, 9, 10, 13, 14, 20, 24.	Chapter 3, Table IIa, IIb, section IV.
10. Display of affection after pain. 8, 13, 14 Category A.			8	8	7, 8, 9, 10, 13, 14, 20, 24.	Chapter 3, Table IIa, IIb, section IV.
11. Provocative reaction following pain (strongest reaction: body shaking and only one not followed by affection).		20	8	8	7, 8, 9, 10, 13, 14, 20, 24.	See text of this chapter.
12. Interval-free painful feedings. 13, 24			6	8	8, 10, 13, 14, 20, 24.	From Chapter 5, Table VIII, section IV.
13. Verbalizations following pain: Derogatory remark.		7	6	8	7, 8, 9, 13, 14, 24.	Chapter 3, Table IIIa.
<i>Distraction</i>						
14. Distraction: in absence of pain or frustration (talk with other patients, etc. Reading during feeding phase. — = presence of d).		7, 14, 16, 20	11	20	7, 8, 9, 10, 11, 14, 16, 18, 20, 21, 23.	Chapter 4, Tables VIII and XII, section XIV.

TABLE V

DEVIATIONS OF RESPONSES POSITIVE AND NEGATIVE OF NURSING MOTHERS DURING VARIOUS ASPECTS (SITUATIONS) OF FEEDING PERIODS\*

Situations	+ Case No	— Case No	No of Mothers Compared	No of Feedings Compared	Case No	Reference
<i>Initial phase</i>						
1 Baby quiet and awake (18, only mothers who used stroking 16 and 21, verbal response only)	18	16, 21	6	8	8, 11, 13, 16, 18, 21	Chapter 1, Tables II, IV and Appendix
2 Baby crying (most positive response — laughing and squealing)	8		7	11	7, 8, 11, 14, 16, 24, 25	Chapter 1, Tables II, IV and Appendix
<i>Feeding phase — stimulations</i>						
3 Rough stimulation on early postnatal day		21, 7	13	16	All except 11 and 15	Chapter 2, section X, Table XI, Chapter 5, Table II
4 Number and variety of stimulations in D and E feedings (lowest frequency), first three postnatal days		16	7	7	13, 16, 18, 20, 21, 23, 25	Chapter 2 from Tables II, VII
5 Same on fourth to eighth day (highest and lowest frequency)	18	10	4	5	9, 10, 18, 20	Chapter 2 from Tables II, VII
6 Patterns of stimulation during frustration (mildest and roughest)	18	20	7	7	7, 9, 18, 20, 21, 23, 25	Chapter 2, section XI
7 Use of frequent body shaking and rolling in stimulation patterns		7, 20	7	7	7, 9, 18, 20, 21, 23, 25	Chapter 2, Table XI

TABLE V (Continued)

Situations	+ Case No	— Case No	No of Mothers Compared	No of Feedings Compared	Case No	Reference
21 Interval phase Social response after C, D, or E feeding	10, 13 18, 23		9	13	7, 10, 13, 16, 18, 20, 21, 23, 25	Chapter 5, Table VII
22 Interval phase Prolonged period (longer than 20 min)		10	15	20	All cases	Chapter 5, Tables II, Xa
23 Interval phase Time taken out eight min or longer in A, B, C, and "late" D and E feedings		9, 10, 14 16, 20	15	20	All cases	Chapter 5, Table II, VIII
24 Interval phase Highest category of response per feeding On plus side A, B, and C or D On minus side, E	A 8, 9 13, 18 23, 25 B 7, 10, 21, 21 C and D 7, 11, 14	14, 16, 16 20, 20, 20	13	19	7, 8, 9, 10, 11, 13, 14, 16, 18, 20, 21, 23, 25	Derived from Chapter 5, Table VIII
End phase						This chapter, section VI
25 Display of affection while baby was sucking (category A)	8, 13, 18, 23		15	36	All cases	Derived from Chapter 5, Table VIII
26 Response to baby when nurse was leaving + = only mothers who displayed affection — = most negative response	18, 23	16	15	36	All cases	

\* A case number in italics listed with others represents the highest plus or minus response. Thus in situation 23, Case 10 had a lower score than Cases 9, 14, 16, and 20. In situation 10, Case 8 had a higher score than Cases 13 and 14. In situations 14 and 15, Case 16 had lower scores than Case 20.

TABLE V (Continued)

<i>Situations</i>	<i>Case No</i>	<i>Case No</i>	<i>No of Mothers Compared</i>	<i>No of Feedings Compared</i>	<i>Case No</i>	<i>Reference</i>
<i>Passivity</i>						
15 Passivity Failure to aid baby's sucking under conditions listed other than slowed sucking	8, 13, 23, 24	10, 11, 14, 16, 20	15	36	All cases	Chapter 4, Table X
16 Passivity Its frequency in painful and presumably painful feedings + = 0 passivity — above the line = passivity under various conditions — below the line = passivity to slowed sucking only Each painful feeding scored	8, 13, 23, 24	10, 11, 14, 20	9	12	8, 10, 11, 13, 14, 20, 23, 24, 25	Chapter 4, Table X
17 Passivity Feedings with pain, tension or frustration eliminated Frequency + = 0 frequency — above the line = 5 — below the line = 1 No 7 frequency is one-half	8, 18, 23	16, 20	10	15	7, 8, 10, 11, 14, 16, 18, 20, 21, 23	Chapter 4 Derived from Tables II, IX, XI
18 Passivity Absence of passivity in painful feedings	7, 8, 13, 24	11, 14, 21	8	8	7, 8, 9, 10, 13, 14, 20, 24	Chapter 4, Table XII and text of this chapter
<i>Interval phase</i>						
19 Interval phase Presence of social response after an E feeding	18, 23		5	7	16, 18, 20, 21, 23	Chapter 5, Table VII
20 Interval phase Absence of social response after an A or B feeding		16	7	8	7, 8, 9, 11, 14, 16, 21	Chapter 5, Table VII

It will be remembered that in some feedings the baby's sucking continuity and immediate response to stimulation, as also maternal attitude (Table III,5), resulted in interval-free periods. When that occurs we are more dependent in the search for display of affection or behavior that is closely bound with feeding behavior.

So far we have anticipated the special problems of identifying maternal attitude in difficult and in interval-free periods. There is a type of feeding that is characterized by a smoothness of interaction, of reciprocal response (as in Case 23, II), in which the sucking pattern and pattern of maternal response are so well tuned to each other as to give an impression that mother and baby are fused in the act. If this impression which can be expressed objectively by careful study of behavior sequences is proof of special maternal attitude we may have no other evidence of it. It is possible that a mother who shows none of the differentiating behavior we have learned to regard as positive response may reveal it in the type of feeding described. That is, her feeling of affection for the baby may completely elude our observation because it is concealed in the feeding pattern. The same possibility applies to any moment of the feeding phase.

The problem may be a more compelling one after the feeding pattern has become well established beyond the first postnatal week. In our own group all the mothers revealed behavior that could be differentiated for attitude. The point made applies also to the mother who furnished our best example of reciprocal behavior in the feeding phase.

Another example of smooth integration occurred in the case of a mother (Case 25, III) who meanwhile became interested in activities in the ward though her glances frequently returned to the baby. In her case there was no evidence of the "fusion" that characterized the mother described above.

## SECTION VII

Each situation differentiated one or more members of the group. It differentiated for only one direction, positive or negative, or both. When positive the behavior is readily discerned as evidence of direct expression of affection (situations 1, 2, 10, 19, 21, 24, 26), persistency in initiating and activating the sucking in spite of the baby's resistance (situations 4, 5, 22, 23) accomplished under the circumstances with tenderness (6) and control of feelings of frus-

## SECTION VI

In the analysis of observations for the purpose of identifying maternal attitudes one source has not been fully investigated. In Chapter 3 it was noted that the affect expressed during intrinsic feeding behavior was likely to be more difficult to identify than behavior primarily social as in the initial, interval, or end phase, or "sequential" behavior as in distraction, passivity, and reaction to frustration. Variations in the patterns and in the number of stimulations which were found to be differentiating may be regarded as examples of attitude revealed in intrinsic feeding behavior. We are now to consider the expression of affect when it is intimately bound with feeding behavior. While stimulating the baby to suck a mother (Case 8) kept touching the baby's face. The activity was part of a pattern of stimulation and combined with patting the baby's back and cheek. The touching occurred in the early part of the feeding. As the feeding went on stimulations were limited to patting movements which were very frequent and continuous to the end of the period. The initial phase and the terminal phase gave evidence of positive affect (laughing and squealing when the whimpering baby was brought in; smiling and cuddling at end of feeding phase). The touching movements were more likely affect-movements than stimulating ones in view of the stimulation pattern and the total picture of this feeding and the others. The same mother used patting in another feeding presumably to display affect, since the patting continued while the baby was sucking and had no need of a stimulation. The patting that was thought to manifest affect was applied to the baby's head and ear, rather than the cheek which was the only site that was patted when stimulating activity followed the baby's failure to suck.

Another example at the beginning of the feeding phase (Case 18) was the use of light stroking with a finger, at first in immediate sequence with a stronger stimulation (nipple insertion) which then was followed by strong stimulations in a difficult frustration feeding. A number of stimulating activities were featured by light and gentle patting in the case of another mother (Case 23).

The examples used to illustrate positive affect in an intrinsic feeding behavior were found in Cases 8, 13, 18, and 23. The findings are consistent with those previously recorded in Tables II and III (Table V, situation 25).

TABLE VI

RANKING OF CASES IN EACH SITUATION LISTED IN TABLE V

Situation		Case No.			
1. Above	18	21	8, 11, 13		
Below	8, 11, 13, 16, 21	16	16, 21		
2. Above	8				
Below	7, 11, 14, 16, 24, 25				
3. Above	8, 9, 10, 13, 14, 16, 18, 20, 23, 24, 25				7
Below	21, 7				21
4. Above	13, 18, 20, 21, 23, 25				
Below	16				
5. Above	18	9, 18, 20			
Below	9, 10, 20	10			
6. Above	18	18		7, 9, 21, 23, 25	
Below	20	7, 9, 20, 21, 23, 25		20	
7. Above	7	9, 18, 21, 23, 25			
Below	20	7, 20			
8. Above	15, 18, 24, 25	7, 9, 21			
Below	7, 9, 16, 21	16			
9. Above	7, 8, 9, 13, 14, 24				
Below	10, 20				
10. Above	8, 13, 14	8			
Below	7, 9, 10, 20, 24	13, 14			
11. Above	7, 8, 9, 10, 13, 14, 24				
Below	20				
12. Above	13, 24				
Below	8, 10, 14, 20				
13. Above	8, 9, 13, 14, 24				
Below	7				
14. Above	8, 9, 10, 11, 18, 21, 23		7, 14, 20		20
Below	7, 14, 16, 20		16		16
15. Below	10, 11, 14	20		7, 8, 9, 13, 15, 18, 21, 23, 24, 25	
Below	16, 20	16		10, 11, 14, 16, 20	
16. Above	8, 13, 23, 24, 25		8, 13, 23, 24		11, 14, 20
Below	10, 11, 14, 20		25		10
17. Above	8, 18, 23	7		11, 14, 21	10
Below	7, 10, 16, 20, 11, 14, 21	16, 20, 11, 14, 21	16, 20	7, 16, 20, 11, 14, 21	



tration (8); restoring or displaying affection after withdrawing the breast because of pain and controlling attendant feelings of provocation (9, 10, 11), alertness to the baby's behavior in spite of pain, frustration, or distraction (16, 17, 18), social response even when feedings were unsatisfactory (19, 21), finally weaving into the usual nursing activities gestures of affection (25). When negative the behavior is readily discerned as absence, diminution, or reversal of positive behavior. It was manifested by roughness (situations 3, 4, 5, 6, 7), expressions of annoyance and provocation (8, 11), distraction and passivity (14, 15, 16, 17) besides absence of or lessened display of affection.

Each situation offers a comparison of the group composing it in various ways. Thus in situation 1, Case 18 may be regarded as above the others, Cases 16 and 21 as below the others and Case 16 as below Case 21. When each situation is treated in this way we are able to derive the relative positions of each case as far as the comparisons allow. Thus in situation 1, of the 6 cases present we know the exact positions of 3 Cases 18, 16, and 21. Of the remaining 3 cases 8, 11, and 13 we know they are below Case 18 and above Cases 16 and 21, but we do not know their positions in relation with each other. In 6 other situations Case 8 is always above Case 11, and in 1 other situation above Case 13. Case 18 is always above all the others; in 12 comparisons (situations) with Case 16, in 10 with Case 21, in 2 with Case 8, 6 with Case 11, and 2 with Case 13. In that manner (see Tables VI, VII, and VIII) each member of the group of nursing mothers can be ranked in her right order except Case 15, who was not present in any situation for comparison with 2 cases, 21 and 25. On the basis of other ranks Case 15 was placed ahead of Cases 24 and 25.\*

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\*Rho for the rank correlation of positions derived from interview scores and situations — comparisons is .94



## BEHAVIORAL ANALYSIS

TABLE VI (Continued)

<i>Situation</i>		<i>Case No.</i>			
18	Above	8, 13, 24			
	Below	7, 9, 10, 14, 20			
19	Above	18, 23			
	Below	16, 20, 21			
20	Above	7, 8, 9, 11, 14, 21			
	Below	16			
21	Above	10, 13, 18, 23			
	Below	7, 16, 20, 21, 25			
22	Above	7, 8, 9, 11, 14, 15, 16, 18, 20, 21, 23, 24, 25			
	Below	10			
23	Above	7, 8, 11, 13, 15, 18, 21, 23, 24, 25	9, 14, 16, 20		
	Below	9, 10, 14, 16, 20	10		
24	Above	8, 9, 13, 18, 23, 25	10, 21	7, 11	20
	Below	7, 10, 11, 14, 16, 20, 21	11, 14, 16, 20	16, 20	16
25	Above	8, 13, 18, 23			
	Below	7, 9, 10, 11, 14, 15, 16, 20, 21, 24, 25			
26	Above	18, 23	7, 8, 9, 10, 11, 13, 14, 15, 20, 21, 24, 25		
	Below	7, 8, 9, 10, 11, 13, 14, 15, 16, 20, 21, 24, 25	16		

Table VII which follows is a summary of case comparisons derived from Table VI. The reading of it can be followed by this illustration of Case 7. In 20 situations in which Case 7 was available for comparison, she was never above Case 8. She was below Case 8 in 9 situations. In comparison with Case 9, she was above her in 1 situation and below her in 5. In comparison with Case 10 she was above her in 5, below her in 4, etc.

The rank order as determined by comparisons of behavior in each situation gives also a measure of the consistency of the differences between one case and another. Table VIII contains the number of comparisons in which each member of the group could be ranked above or below any other member. Thus Case 8 whenever above or below any 1 of the other 14 cases was consistently so in 76 out of 78 comparisons. Three cases were consistent in every comparison. They were either above or below every other case in all the comparisons made. The others were inconsistent, i.e., they were above and also below in some of the comparisons made with the same cases. Table IX contains the number of such inconsistencies for each case arranged according to rank order.

TABLE IX  
NUMBER OF INCONSISTENCIES IN COMPARISONS ARRANGED ACCORDING  
TO RANK ORDER\*

(Derived from Table VIII)

Case No	Rank	No of Comparisons	No of Inconsistencies	Inconsistent with Case No
18	1	84	0	
23	2	74	0	
8	3 5	78	2	13, 24
13	3 5	68	1	8
24	5	49	2	14, 8
15	6	22	0	
25	7	49	1	10
9	8	59	3	7, 11, 21
7	9	93	13	10, 11, 14, 16, 20, 9, 21
21	10	74	10	7, 10, 11, 14, 16, 20, 9
11	11	59	5	10, 7, 9, 21
14	12	84	9	10, 7, 9, 21, 24
10	13	104	19	16, 20, 21, 7, 11, 14, 25
20	14	113	6	7, 10, 21
16	15	106	4	7, 10, 21

There are very few inconsistencies above the median position. In the numerous paired comparisons every case was above or below the other in every situation with few exceptions. That may be due



The gain in accuracy however may have resulted in the loss of more subtle description that would have shown less consistency in the paired comparisons of the high ranking mothers.

The possibility remains that the more maternal mothers show less inconsistency when compared with each other than the less maternal, at least under the conditions in which this investigation was made.

A reason for the larger number of discrepancies among the lower ranking mothers is due to the use of "situations" that are specific for one kind of behavior. Suppose, for example, that a low ranking mother is differentiated in a situation from others because of indifference to the baby's behavior (as measured by passivity units). Now suppose in the same situation a lower ranking mother does not give evidence of indifference, but manifests hostility to the baby through display of roughness. In respect to indifference the lower ranking mother would then rank higher in the situation described above than a mother several positions above her. Since most of the discrepancies were of this type they would be found most frequently among the lower ranking members.

Now let us consider the inconsistencies as they apply to an individual case. Case 7 whose rank is 9, is above 5 cases and below 8 (see Table VIII). She is consistently above or below in 7 of the 13 case comparisons, inconsistently so in 6. The inconsistencies are with Cases 10, 11, 14, 16, 20, 21 and 9. The latter include the two lowest ranking cases (16 and 20). In 9 and 10 comparisons,

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tical for a series of cases because of the expense involved, the change of "habitat" necessary for its installation, and the difficulty of identifying and differentiating within the maternal response the behavior resulting from the experience and the anticipation of performing in front of a large audience.

By the phrase "qualifications ordinarily required" is meant the qualifications, for example, of college students, nurses, or physicians, preferably workers accustomed to making observations at the bedside. A special problem in training has been the reduction of the complicated psychological description, with its implied motivation, to a simple description, not barren of qualifications, but containing those least likely to be subjective (e.g., smiling, laughing, excited, sighed). Since the test of simultaneous description by numerous observers was not available personal discretion was used to eliminate such descriptions as "a hint of a smile," "caressed" instead of stroked or touched, "tried conscientiously" instead of recording method and frequency of stimulation, "played with the baby casually" instead of fingering or feeling the baby's foot, "lost in thought" instead of gazing at ceiling.

to the fact that in regard to maternal response to the baby within the situations as we have depicted them, differences when they occur are generally in marked contrast with those who are below average, and retain a high measure of specific contrast with those who are above average

When we consider the cases below median, excepting the lowest ranking case, the inconsistencies are frequent in regard to comparisons of cases and of situations. Note that the inconsistencies are limited with 2 exceptions (Cases 24 and 25) to cases that are below the median. There is apparently less specificity in the differentiation of cases in which the maternal response is less than average, within the particular situations as we have depicted them. In other words there are fewer instances of total differences in the paired comparisons of 1 case and all the others when measured by the situations enumerated in Table V.

It would be anticipated that those in the midgroup would resemble each other more closely than those in the highest and lowest positions. On that basis the number of inconsistencies would be larger for ranks number 6 to 10 and smaller for the others. Actually the large number of inconsistencies are in the rank order of 9 to 13 inclusive.

One reason may be due to the limitations of the feeding situation as a basis for comparison. Thus it may be true that the more maternal women differ more consistently from the less maternal in this kind of comparison than in comparisons of other sorts, though this is merely a conjecture. Actually in the hundreds of comparisons made, the highest 5 ranks revealed only 3 inconsistencies which occurred exclusively in comparisons with mothers above the median rank.

Another reason may be due to the method of observation employed. To insure validity of data the records of behavior were confined to "ordinary observations." That term was used to represent observations most likely to be described in the same way by any observer, assuming qualifications ordinarily required and some preliminary directions.\*

\*Under the circumstances it was not feasible in this and in similar investigations to have 2 or more observers record the behavior of the same mother at the same time. The use of sound movies has not been tested. It would very likely be a valuable aid in testing the accuracy of observations and in the teaching of a specially selected demonstration case. It would be impracticable

was a display of affection after pain (category A) though none at all during interval phases; and on the other hand more evidence of passivity than in the case of 2 mothers (Cases 10 and 21) who in other respects were ranked in a lower position.

Apparently, according to our findings, there was more variety in the display of negative than of positive maternal attitude. Most of the 24 situations that differentiated the nursing mothers in regard to maternal attitude gave evidence of the intensity or control of reactions to the difficulties involved in the feeding. The control was exerted more directly in relation to the baby when such problems as frustration, biting pain, and feeding failures occurred (situations 6, 7, 8, 11, 19, 21). Control was exerted more in terms of the job of feeding as such when it required persistency in stimulation, alertness to the baby's response in spite of weariness, abdominal sensations pleasurable or painful, or distraction (situations 4, 5, 14, 15, 16, 17, 22, 23).

Either or both kinds of control may occur in situations involving restoration of the breast or avoidance of passivity after pain (situation 9, 16 and 18).

Direct manifestation of affection occurred in its simplest form during the initial phase (situations 1 and 2), in accompanying movements during feeding (situation 25) and in the end phase (situation 26). It was less "simple" when it occurred "in spite of" pain, feeding failures, and other difficulties in feeding (situation 10, 19, 21, 24). In general therefore we may say that the differentiation of maternal attitude in the feeding periods we observed was frequently a study of the manner in which maternal behavior was modified by the display of affection for the baby under trying conditions.

## SECTION VIII

In scoring the records of observations for maternal attitude we may now be guided by the differential values of the situations they comprise. The preceding tables serve as aids to the empirical task of selecting and ascertaining numerical values for the observations that are to be scored. In the tables the same kind of behavior in similar as well as in different kinds of feedings was used as a basis for case comparisons as long as the composition of the groups differed. Thus under passivity there are four situations (Table V, 15 to 18) that differed in regard to the kind of feedings in which



respectively, Case 7 is below each of them in 1. That particular comparison differentiated Cases 7 and 21 from 11 others during the early (first 3) postnatal days (Table V, situation 3). Unlike the others both used strong stimulations characterized as rough. How can it be explained that the 2 lowest ranking mothers, Cases 16 and 20 behaved differently in this respect? They were different but in another way, as explained previously. Both employed the minimal number of stimulations, a contrast that was clear-cut when all feeding failures for the entire postnatal week were included, since as the reader may recall there was a general tendency to employ milder and less frequent stimulations in the early days (see Table V, situations 4 and 5). The inference was made previously that Cases 16 and 20 displayed indifference to the baby. Their positions which were above Case 7 in situation 3 may be regarded as an artifact due to the method employed in constructing the table. Negative as well as positive attitudes are shown in different ways. In respect to these ways Case 7 was in a particular comparison ranked above a mother presumably more maternal, and in other particular comparisons below 6 mothers presumably less maternal.

The discrepancies in the comparisons made for Case 7 may now be explained as follows. With the exception of one situation (Case 17) the mother concerned was very persistent in getting her baby to suck. In the pursuit of this goal she employed the strongest stimulations and reacted vehemently to the baby's resistance (situations 3, 7, 8). At the same time she carried on a conversation with observer, nurse and other patients (situation 14). During interval phases and at other times she talked to her baby and displayed affection though never in the form of stroking or patting. Nevertheless she did not neglect her baby, regardless of the difficulties encountered during the feeding. In her case it would appear that the job of feeding the baby overrode considerations of affection or tenderness. Her pattern was largely that of "basic maternal behavior" doing all and little more than that which was necessary for the baby's health and sustenance. The discrepancies are largely explained by the undue persistency in accomplishing this purpose.

Inconsistencies in the other cases were as in Case 7 examples of individual variations, in a negative or positive way. Thus in spite of a generally negative attitude in Case 10 there was a display of affection (category B) during an interval phase. In Case 14 there

Five items have been found empirically to be sufficient for the count of a record, whether of a feeding or non-feeding period. This limitation is a partial solution of differences in the number of observation units. The details of the method of scoring and the special problems involved are set forth in the appendix. For illustration the scoring of Case 7 follows.

## SCORES OF CASE 7

<i>Observation Period and Postnatal Day</i>	<i>Classification</i>	<i>Observation Unit</i>	<i>Score</i>	<i>Reference</i>
I, 2	C, frustration	1 and 3. Initial phase. Smiling talking and kissing sounds.	3 5	See section V, this chapter. Table V, 3.
		9 and 13. Rolling baby's head and body. (Rough stimulation in early postnatal day.)	2 0	
		18. "You bad girl. C'mon for God's sakes!" (Derogatory remarks during frustration.) <sup>1</sup>		Table V, 8.
		Non-differentiating units.	9.	
		Average score.	(2 9)	
II, 3	A, minimal pain	25. "Ow! You hurt, you bad girl!" <sup>2</sup>	2.0	Section V.
		30. Laughing response in feeding phases.	3 5	
		42 and 44. Laughter and kissing sounds, interval phase.	3 5	Section V.
		Addition of two non-differentiating units.	6.	
		Average score.	(3 0)	
III, 7	A	46, 47. Talking, regarding (initial phase).	3.5	Section V.
		62, 63. Talking to observer about the weather and topics unrelated to feeding (distraction).	2 0	Table V, 14.
		66, 67. Rocking, cooing, laughing, talking (category B).	4 0	Section V, 22.
		Addition of 2 non-differentiating units.	6	
		Average score.	(3.1)	
		Final score.	(3 0)	

<sup>1</sup> One score for response to frustration.

<sup>2</sup> A derogatory remark after pain. See text.

It should be noted that the scoring method was based on the differentiation of the responses of the group of mothers investigated in this study. Its application to other groups will no doubt

they occurred and the cases which they comprised. Consider any case number which was present in all 4 situations. Case 8, for example could be compared with all the other members of the group in 1 of the 4 situations. In the remaining, Case 8 stood the test of 3 further comparisons in groups of smaller numbers but containing in each comparison 1 or more different cases. Altogether Case 8 stood the test of 17 comparisons (Table VII) with other members of the group. The minimum number of comparisons with a single other case was 5 (Case 15); the maximum, 17 (Case 14).

Table VII contains only the number of situations in which 1 case differed from any other. Thus, in situation 22 of Table V, 13 cases were alike in not having an interval phase as long as the other two cases on a late postnatal day. The number of instances in which each case was similar to each other can be computed from Table V.

The fact that a specific kind of behavior had differential value in a variety of comparisons does not involve a multiplicity of scores. Passivity, for example, was found to be a differentiating behavior in painful feedings in which the pain was inferred from direct and also from both direct and indirect manifestations (situations 16 and 18, Table V). When the notation is found it is scored once. Table VII was used to compile case comparisons in a large number of situations. They were used as a guide but not as the sole basis for all the scores. Thus situation 2 differentiated Case 8 by virtue of the most positive response in a group of 7. It was not a source of scores for any of the remainder. It indicated that Case 8 manifested behavior that was more positive than 6 others and in that respect scored above them.

Scoring the observations of feeding periods is derived not only from scores of separate "units" of behavior but also from scores that apply to the entire feeding periods. The latter are qualified as early (first 3 postnatal days) frustrating, tense or painful, whatever the case may be, since we have learned that the presence or absence of certain kinds of maternal response can be differentiated on that basis alone.

Behavior not differentiated for attitude is regarded as "basic maternal behavior" and given the numerical value of 3. Behavior differentiated as evidence of positive attitude is given the score of 4 or 5. When negative the score is 2 or 1.

TABLE X  
SCORES AND RANK PER CASE

Case No.	Scores of Records	Final Score	Rank
7	2.9, 3.0, 3.1	3.0	9.5
8	3.9, 3.9, 4.0	4.0	3
9	3.2, 3.2, 3.0	3.1	8
10	2.2, 2.2, 2.4	2.3	13
11	3.0, 2.9	3.0	9.5
13	3.9, 3.9	3.9	4
14	2.8, 2.9, 2.8	2.8	11
15	3.4	3.4	6.5
16	1.0, 1.4	1.2	15
18	4.6, 4.4	4.5	1
20	1.8, 1.8, 2.0	1.8	14
21	2.7, 2.7	2.7	12
23	4.4, 3.8	4.1	2
24	3.8	3.8	5
25	3.3, 3.4, 3.4	3.4	6.5

reduced. Other than Case 23, the use of any one average score would alter but slightly the ranking order.\*

It is clear that the overt expression of affection for the baby during a feeding period depends among other things on the opportunities that are afforded the mother, some of them accidental. Assuming that the mother's affection for the baby remains unaltered during three observation periods, there is a difference in the opportunity for its direct expression when one of them because of the pattern of continuous and vigorous sucking allows for no interval period, and the others allow for interruptions at the beginning or towards the end of the sucking phase.

In spite of that fact a comparison of mothers under the variety of conditions described has already shown a sufficient consistency to anticipate the attainment of similar scores for the same mother in different observation periods.

\*Rho for rank order of the 15 breast-feeding mothers according to (A) interview ratings, (B) case comparisons in the situations listed in Table V and (C) observation scores, follow:

Rho of A and B = .93, of A and C = .92, of B and C = .985. See Appendix A, Table XII.

require certain modifications depending on the presence of special conditions. The methods of stimulation, for example, may be employed in certain hospitals according to a prescribed manner, in which case, criteria of roughness, other than those employed in this study may be necessary. The differentiating of derogatory remarks used during frustration may have little application to other groups. The limitation of scores should prove helpful in this respect, since, as they become more frequent, there remain a number of equivalent scores sufficient to correct inaccuracies due to unrecognized individualities of our group. The score for derogatory remarks could for example be eliminated since the score for roughness of stimulation usually pertains to the same observation unit.

When "refinement" of scores is not important, as in investigations that require no more than the division of a group into those who are average, above average and below, the rules can be readily simplified. However the observations must still be made with attention to every detail.

Our investigation has shown that mothers can be differentiated consistently as to maternal attitude in feedings that are strikingly different from each other.\* The empirical problem in the weighting of scores became that of obtaining the same or nearly the same average score for each feeding of the same mother by the use of rules that applied to all the mothers.

The results are shown in Table X.

Excepting Cases 16 and 23 the average scores for each case were the same or within 2 points of each other. Case 16 would still retain the lowest rank order with either score. The scores of Case 23 reveal a serious discrepancy though either score is above median. The lower score used alone would change the rank of Case 23 from 2 to 5. The reason for the difficulty can be seen in a review of the observation period. The record contained numerous notations of visual behavior, chiefly staring. The feeding was characterized by a smooth integration of sucking and maternal response in an A feeding. We have no scoring device for that kind of integration or a means of determining that such a feeding is painful. If it could be so characterized the discrepancy would be

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\*Barring the exceptional case as described previously.

Each component though part of a pattern can be studied more or less in isolation. Each mother can be characterized by the prominence or the deficiency of any component. Thus in our group there are mothers who are affectionate, devoted and interested but deficient in tenderness, mothers who are more devoted and interested than affectionate, mothers who are more tender than persistent.

The interdependency of the components can also be gauged. Least dependent on the other components is devotion. Most closely linked together are affection and interest.

Viewed as relational behavior undifferentiated for attitude the same components (without positive or negative connotations) can be seen as nursing behavior, social response, and protection. In a more primitive biologic sense we may then say that with one possible exception all the mothers attempt to ensure the viability of their offspring during the feeding periods observed.

## SECTION X

We may now consider the non-feeding periods, those in which the babies were brought to the mother for a social visit. Seven mothers who had their babies for social visits only were observed. Two of them (Cases 11 and 15) were observed also during breast feeding periods. Four of them did not breast-feed. Three were observed only during non-feeding periods (Cases 17, 19, 22). One was observed during 2 non-feeding periods (Cases 17, 19, 22). One was observed during 2 non-feeding periods and 1 bottle feeding (Case 12). For various details the reader is referred to Chapter 1 (section V and Appendix).

The comparisons of maternal response during the social visits on the first postnatal day and the later breast-feeding periods are of interest though limited to 2. In one of them (Case 11) the baby was left in a crib next to the bed for 5 minutes. The mother smiled, cooed, regarded, and spoke to the nurse proudly about the baby's appearance. When the baby was taken away the mother made kissing sounds. Though it could have been done, the mother made no physical contact with the baby. The same responses, cooing, smiling, regarding and talking, occurred during the initial and end phases of feeding period on the fourth postnatal day. Smiling and a verbal response occurred during the initial phase on the seventh postnatal. There was no end phase response. The feeding however was painful. The response during each initial phase of the feeding

## SECTION IX

When we consider the components of maternal attitude that are contained in the differentiations of behavior they may be described by such positive terms as devotion, interest, affection and tenderness.

Devotion is revealed in the various aspects of the task; persistency of stimulation, absence of passivity, duration of the interval phase. Taken by itself it represents that attribute which is closest to basic maternal behavior. Of its manifestations we have learned that persistency of stimulation as such can occur with little evidence of the other manifestations of devotion, or the other components of maternal attitude. In other words a mother may be hard working in the task of nursing with less than average maternal attitude. In her persistency in attaining the goal she may lose consideration for the baby. Interest is evidence of relatedness, of manifest awareness of the baby, regardless of distraction or difficulties in feedings. It is more easily measured by lapses, as in conversation with others, reading, gazing into space, and failure to observe the baby's sucking needs.

We have learned that conversation with others and reading during the feeding phase has differential value for maternal attitude in the first postnatal week depending on the absence of pain. During painful feedings highly maternal mothers display, though less than others, signs of unrelatedness. Painful sensations presumably disturb the relational behavior.

Affection as the term is used in this study is revealed in overt display of feeling for the baby. The display of affection was found to be more differentiating in regard to certain forms of body contact than vocalizations or kissing sounds. As a component of maternal attitude affection was the most difficult to isolate and differentiate.

Tenderness is measured by the control of annoyance, impatience or anger towards the baby when feedings are frustrating, exhausting or painful. The control is revealed in the type of stimulations employed, the behavior that follows acute pain, and the verbal response that follows the baby's persistent failure to suck. It may be seen also in the use of mild stimulation when strong is more appropriate. It must be differentiated from behavior in which failure to use strong stimulation is due to indifference or anxiety.

record). Since she was one of the lowest scoring mothers of the group of 19 according to interview ratings her response during the brief contact with nurse and baby is worth considering. The response to the baby was a glance in the first 2 visits and no response at all in the third. In the third the mother interrupted a conversation with another patient to resume it quickly when the nurse left.

In Case 19, 3 non-feeding visits were observed, for 20 minutes per period. The responses were chiefly talking (in 8 of 9 observation units, period I; 15 of 20 observation units in II; 15 of 21 observation units in III). Smiling occurred in 3, 5, and 4 observation units; laughing in 1.8 and 2 observation units, respectively. There were a few notations of cuddling and rocking and one instance of soft touching that was part of an inspection pattern. The baby cried on several occasions during the third period. The mother talked to the baby about his hunger, and how she wished she could do something, etc. On one occasion she cuddled the baby, on another she cuddled and at the same time carried on a conversation with another patient. Distractions of this sort occurred in the periods II and III. End phase responses were watching and talking. The talking and activity in the first period were largely inspecting including frequent attempts to open the baby's eyes.

Scoring for non-feeding visits in this case follows: "Prevailing category C" for I (2.5); category C (2.5) and distraction (2.0) in II; the same in III. The final score is below 3 and above 2, when two "undifferentiated" units are added to make up 5 scores for each observation period.

Case 22, the lowest ranking mother of the entire group according to interview ratings was observed in 2 non-feeding periods for 12 and 8 minutes, respectively. Response to baby was absent in one feeding and exclusively verbal in the other. There were no praises or compliments; the talk was chiefly scolding or something derogatory ("No crying, you bad thing, you're horrible," etc.). The first short period was featured also by distracting conversation, the second by attempts to stop the crying, through scolding and hitting the baby's hand. There was no evidence of comforting, rocking, cradling, or any signs of endearment.

The scoring presents no difficulty. No response or exclusively verbal response in the initial phase of a non-feeding period is



period remained in the same category with the initial response of the non-feeding period. The 2 end phase responses were also consistent. The mother's fatigue need not be considered therefore the determining factor in regard to the pattern of response.

We have learned in Chapter 1 that the social maternal response to the baby during the initial phase of a non-feeding visit is much more likely to occur, and also in more elaborate fashion. The scoring of the categories for affect in non-feeding visits is therefore altered to meet this condition. (Scores for non-feeding period is 3; scores for feeding periods, 3 and 2.9.)

In Case 15 the baby was placed in bed beside the mother for 5 minutes. The response was patting (initial and end phase), talking and kissing sounds. In the one feeding period observed, kissing and talking responses occurred in initial and end phases. Patting occurred during an interval phase. The non-feeding period is scored according to category A. (Score for the non-feeding period is 5; for the feeding period, 3.4.) Compared with feeding periods the non-feeding ones do not allow, or we have not learned how to make, a finer discrimination for positive attitude. A more accurate differentiation might be made by more detailed observation of the patting, etc., and the relative frequency of the responses.

During a non-feeding visit the baby's crying becomes a special problem to the mother, since the baby is hungry and she does not feed him. Under such circumstances there appear to be frequent and worried efforts to placate the baby. Review for example the observation records of Case 12. The second non-feeding visit was featured by various maneuvers, including patting, rocking, cuddling, besides talk about the baby's being hungry and how she couldn't stand it, etc. Responses of this type since they are all involved with the problem of quieting a crying baby are to be differentiated from a display of affection. Their "basic" or model representation has not been determined.

The third observation period of Case 12 was a bottle feeding, the only such feeding in the group, and therefore not scored. It is interesting that if regarded as a breast feeding it would score below median (see record of Case 12, III).

Case 17 was observed on 3 occasions when the nurse, baby in arms, came to her bed. The baby was never placed beside her, since the mother did not wish to breastfeed her, and was not scored. On each occasion she used illness as an excuse (see her

The gradient aspect is shown by the infrequency of all-or-none differences and by the frequency of differences that lend themselves to measurement on a scale of values. Consistency is shown by the finding of similar positions for the same individual on such a scale when it is applied to a large variety of situations selected for specific behaviors. Further this consistency increases generally for each individual as the "quantity" of maternal feeling approaches either end of the scale.

The identification of maternal feeling has been made largely in terms of its functional representation in social behavior. We were limited by our method largely to observations of how the mothers acted rather than how they looked. Until more precise clinical methods of analyzing facial expression or vocal quality, etc. have been developed, observational methods of identifying maternal feeling, when we wish to satisfy the requirements of investigative procedures, will very likely be limited in this way.

Since the mother-infant relationship is so deeply rooted biologically—and like other biologic processes is given strong impetus toward fulfillment by repetition, growth, and experience—we were interested in finding such evidence in our observations. The increasing sucking ability of the infant and the increasing nursing skill of the mother have been noted. Strengthening of the bond that unites mother and infant may be inferred, especially from feedings characterized by growth in the harmony of mutual adaptation when it can be traced through the patterns of sequences. More pertinent data on that point however were not secured. The limitation of our observations in number, in span of time, probably also in the special setting in which they were made, may represent some of the offsetting factors.

## SECTION XII

The phrase basic maternal behavior has been employed in this study to mean the way most mothers respond to their babies under certain conditions. It represents a common denominator of maternal behavior in situations characterized by common features.

Basic patterns may be regarded as the base lines above and below which we look for deviations of behavior that finally yield the presence and the measure of maternal feeling. If a maternal feeling is present in basic maternal behavior therefore our analysis cannot give a measure of it. In our calculations we regarded it as

scored 1. The rest of the period is consistently also 1 (exclusively verbal response, marked distraction, roughness and derogatory remarks.)

Of the four components of maternal attitude, one of them, devotion, has little or no opportunity for expression in a non-feeding period, since there is no task to perform. There is more opportunity for display of affection, however, for that very reason, since devotion to the job of feeding runs in competition with it. Absorption in the baby, interest, relatedness, can be measured by distraction, but the necessary minimal period of time with the baby, must be determined by further study. In Case 19, conversation with others occurred after 14 minutes. In Case 12, conversation with others began in the middle of a ten minute period during a visit on the first postnatal day. Tenderness as measured by inhibition of the display of annoyance would seem to require the test of a difficult feeding. Nevertheless such display occurred in the non-feeding visits of Case 22. As evidence of tenderness soft movements, verbalizations, and tone of voice might be considered appropriate sources. However they are too subtle and subjective for "ordinary" observations. In non-feeding periods we are dependent largely though not entirely on the display of affection for the estimate of maternal attitude. The behavior that is concerned with inspection and with reactions to a crying baby requires further study for appropriate differentiation.

## SECTION XI

The identification of maternal feeling in this investigation has been made by determining its influence on patterns of behavior. Maternal feeling is assumed to be that something, of varying quantity, which explains certain differences found in observations of maternal response to the baby. The explanation does not imply that because a mother has more or less maternal feeling she has chosen to act in a certain way, or the opposite, that because she has chosen to act in a certain way maternal feeling has been reduced or enhanced. The implication of our findings is simply that more such feeling is found in a certain kind of behavior than in another. A further implication is that of a certain stability in maternal feeling, in a quantitative sense, since its measure under the variety of conditions observed remains consistent, and in keeping with the past history of the individual.

## APPENDIX A

## Interview Ratings

When the questionnaire is used orally and efforts are made to facilitate the subject's cooperation and understanding there remain for consideration certain weaknesses in the choice of questions, their manner of presentation, and the subjects to whom they are applied. The selection was based on a long trial and error period. In the course of time it can well be improved. Certain questions were found to be more appropriate to young unmarried women than to women with children. Certain questions were found more appropriate to women who could afford servants than to those who could not. At the present time it is better to eliminate questions that have little or no value for the group investigated. In that case the members of the group are still comparable with each other and with other groups in which the same corrections have been made. For our group four questions were eliminated.

The question "When you thought about being a mother some day how many children did you intend to have?" was eliminated. It was found that many mothers with children gave the same reply to that question and to the question "How many children do you intend to have?"

The two forms of this question were used to distinguish replies based on phantasy and on the consideration of realities. The unmarried woman may reply that she had phantasied herself as a mother with a dozen children but knew that after marriage she would settle on 4, depending on her age at the time of marriage, on the kind of husband she would have, on economic conditions, etc. Women with children find it difficult, or the interviewers find it difficult to enable them, to make the distinction. Usually they give the same reply to both questions.

For the same reason the following question was also eliminated: "After marriage how many years would you prefer waiting before having your first child?" Mothers with children usually made no distinction in their replies of the actual and the preferred time.

Questions concerning a "mothering" relationship to men and preference for exclusive care of the first baby were also eliminated. The former turned out to be inadequately discriminating, or probably poorly detailed. It struck home only for the highly maternal. The latter was regarded rather as a silly question by mothers who

having the value of an average and when all the units in an observation period contained basic patterns alone, the period was given an average score. It contained, according to our analysis, an average amount of maternal feeling. A study of the deviations helped to determine the presence of a feeling in a basic pattern. Consider the basic pattern of persistency in a feeding. All mothers persisted in nursing the baby, in activating the baby's sucking, or aiding the sucking to go on once it has started. The number of efforts they employed and its duration in time varied considerably. There are a number of factors involved in this process besides maternal attitude. Once an attitude has been demonstrated by a study of the deviations from the basic pattern we may assume its presence in the basic pattern, whenever a gradation in the behaviors can be shown.

We can now pursue the thesis that deviations which represent attitude give us a way of finding out how the feeling-component affects a pattern, how it accentuates one kind of activity and diminishes another. Thus we may say that as the quantity of maternal feeling increases there is more alertness to the baby, more sustained effort, concentration, and variety of methods in the task of feeding him, more self-sacrifice in the sense of going on with the nursing in spite of pain or fatigue, more social response, more display of affection in the form of physical contact, and more avoidance of rough stimulation, retaliatory behavior or passivity.

The influence of the feeling on maternal behavior can be seen in a biologic sense as ensuring the viability and welfare of the infant by inhibiting potential dangers of physical force, indifference, or neglect and favoring the tendencies toward protection, close contact, social response and affection. Thus, in relation to the baby a medley of influences are brought about which characterize a certain complexity of behavior as maternal. We can see also that as the feeling component increases, the hostile and other conflicting feelings have less chance to operate upon it.

A study of the composite of influences exerted on the feelings and activities of the individuals that result in maternal patterns of behavior can be applied to other forms of relational behavior in which, as in sexual behavior, the same relational components are present though patterned in another way.

The interview ratings were derived from replies to the following 7 questions.

1. How old were you when you stopped playing with dolls? Further questions were asked to differentiate mothering play from use of dolls as "mascot," or for other purposes. Score: First 5 years, 1; 6 or 7 years, 2; 8, 9 or 10 years, 3; 11 years, 4; 12 years or older, 5.

2. Of the following games with dolls or other children, number in the order of your preference. The typewritten list is presented to the patient: Hospital or doctor, school, house (other than play of being a mother), mother and baby, shopping, nurse, prince and princess, others. What role did you choose in these games? Score: Marked preference for mother-baby play and mother role, 5; mother and baby in first 2 choices, 4; in first 4, 3; below fourth choice, 2; not chosen, 1.

3. As a child were you a neighborhood mother? Did you voluntarily take care of younger brothers or sisters? Elaborate.

In the interview elaborations are encouraged to get at the feelings involved, especially at negative feelings when care of younger siblings was compulsory. Scores are limited to 2, 3, and 5; 2 when negative feelings are clear; 3 when the answer was a mixture of positive and negative feelings in regard to care of siblings or evidence is clear that there was no opportunity for either care of sibs or other children, 5 when it was clear that patient was a "neighborhood mother," a voluntary "baby sitter," loved mothering younger sibs.

4. Whenever you see a pretty baby, (1) Do you feel like eating it up? (2) Does it fill you with a longing for one of your own? (3) Do you feel like taking it in your arms? (4) Do you feel interested but no more than that? (5) You are not interested? Do you think all babies are a nuisance?

Positive response to first or second question or both, 5; to third question only, 3; to fourth question, 2; to fifth, 1.

5. In the questionnaire responders checked numbers 0, 1, 2 etc., referring to the number of children they hoped to have. In the interview the question was how many more children would you like to have? Score: only this 1, 1; 2, 2; 3, 3; 4 or 5, 4; more than 5, 5.

6. Would you prefer to breast feed the baby, not at all, 1 month, 2 to 5 months, 6 to 12 months? Scores follow in the same order, 1, 2, 3, 5.

7. How would you rate your maternal feeling toward children? (1) Very maternal. (2) Above average. (3) Average. (4) Less than average. (5) Non-maternal? The scores follow in the same order: 5, 4, 3, 2, and 1. The self-rating question showed the highest correlation of any with the observation score.

had no choice in the matter. Others replied with too many qualifications to make it serviceable. In our group of 19 mothers all but one chose the reply "I wanted to take care of it all myself." Two qualified the reply by using part of a second choice ("a nurse the first half year") to supplement the first. They wanted the nurse for a little while, until they felt sure. The one exceptional reply, a preference for a full time nurse or governess throughout the baby's infancy, was made by Case 22, the lowest ranking of the 19 mothers.

Other weaknesses of the questionnaire were found in the limited range of replies, which amount to deficiencies, in 2 of the questions that were retained. Nevertheless they were found to have sufficient discriminating value to prevent their elimination. The questions follow: "Of the following games with dolls or with other children, number in the order of your preferences" (a list of make-believe plays follow including among seven, mother and baby, nurse, school), and, "As a child were you a neighborhood mother? Did you voluntarily take care of younger brothers or sisters?"

For both questions the replies are elaborated. The first discriminates well mothers who are above average, but poorly, those below. If such discriminating plays exist that are characteristic of the low maternal we have not learned how to select them. The elimination of this question remains a moot point.

The second question has no provision for mothers who were only children and who for various reasons had scant opportunity to display maternal feelings towards other children. That however occurs infrequently enough to favor retaining this question since it was found to have good discriminating value. In those instances where it cannot apply it is not counted. Only one such instance was found in our group (Case 11) \*

On the whole observation scores were more discriminating than the interview scores in the range of cases below average, though the rank order of both correlated significantly. If the question of make believe plays is also eliminated we have the closest matching of both scores.

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\*Two mothers expressed the strongest feeling against the experience of caring for a younger sibling. They were the lowest and next to the lowest in the rank of the 19.

TABLE XII

RANK ORDER OF BREAST FEEDING MOTHERS ACCORDING TO:

Case No.	A	B	C
	Interview Ratings	Case Comparisons in Situations Listed in Table V	Observation Scores
7	6	9	9 5
8	3	3 5	3
9	9.5	8	8
10	11.5	13	13
11	13	11	9 5
13	6	3 5	4
14	9 5	12	11
15	4	6	6 5
16	15	15	15
18	1	1	1
20	14	14	14
21	11.5	10	12
23	2	2	2
24	6	5	5
25	8	7	6 5

$\text{Rho A and B} = .93$   
 $\text{Rho A and C} = .92$   
 $\text{Rho B and C} = .985$

## APPENDIX B

## Scoring of Observation Records

The special problems that arise will be considered after scoring each case. Rules for scoring will follow Case 25.

Case 7 was used for illustration in section VIII. Two special problems were revealed; scoring of an item not differentiated in the tables and the number of counts for repeated items. In this case the derogatory remark during a painful unit was scored. It was the only such remark in any painful feeding. However teasing derogatory remarks were typical of this case. The same remark in a frustrating feeding was definitely scorable as seen in Table IV. It was associated also with rough stimulation. Apparently rough



dence of tension) and 5 when pain is frequent (manifested in 3 or more observation units.) In estimating severity of pain consider besides its direct expression breast withdrawals and tension.

CASE 9

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 3	A (minimal pain) no tension	6 Smiling, laughing (after expres- sion of pain)	3 5	Derived from Table V, 10
		4, 9 Regarding, smiling, talk	3 5	Category C
		Add 3 undifferentiated o u	9 0	
		Average score	(3 2)	
II, 4	B	20 Patting, cooing	5 0	Table V, 24
		Long interval phase	2 0	Category A
		Add 3 undifferentiated o u	9 0	Table V, 23
		Average score	(3 2)	
III, 8	E (frust ) tension	26 "Baby you're getting nastier and nastier"	2 0	Table V, 8
		Absence passivity in period with tension	4 0	From Chapter IV, Table XII
		Add 3 undifferentiated o u	9 0	
		Average score	(3 0)	
		Final score	(3 1)	

6. The category of response after expression of pain was scored.  
4, 9. Relational behavior indicating positive affect occurring during the feeding is scored once according to categories of response. Patting that is used to express affect rather than stimulation, while feeding, is scored 5.

III. Of the 12 feedings in which tension was noted, 11 were painful or presumably so. Case 9, III was exceptional in that respect. The feeding was however strongly frustrating. Absence of passivity in spite of tension occurred in Cases 8, 9, 13, 23, and 24.

stimulation was present also in the period containing the painful unit, as also other derogatory remarks.

The number of the same items accepted for scoring is a more frequent problem. For the initial phase a positive score is used once. In any phase when the continuation of the same caressing or other kind of behavior goes into the next 1 or 2 observation units (62 and 63), it is counted once. Laughing was repeated and was clearly relational in well separated sequences (30, 42, and 44) and scored twice, once for the feeding phase and once for the interval phase.

## CASE 8

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 1	A (Minimal pain, tension)	1 Laughing (initial phase)	3 5	Table V, 2
		8 Patting while baby was sucking	5 0	Table V, 25
		Interval-free painful feeding	4 0	Table V, 16
		Absence of passivity	4 0	
		Add one undifferentiated o u	3 0	
		Average score	(3 9)	
II, 4	A	15 Laughing, squealing (initial phase)	3 5	Table V, 2
		17 Stroking while baby sucked	5 0	Table V, 25
		20 Regarding, smiling, cuddling near end of feeding	4 0	Table V, 2
		Absence of passivity	4 0	Table V, 17
		Add one undifferentiated o u	3 0	
		Average score	(3 9)	
III, 6	A painful, tension	22 (Initial phase not observed	3 5	
		Score estimated on basis of other feedings)		
		21-25 Restoring and patting after pain	5 0	Table V, 10
		29 Patting, cuddling during interval phase	5 0	Table V, 24
		Absence passivity in painful feeding	4 0	Table V, 6
		Add one undifferentiated o u	3 0	
		Average score	(4 1)	
		Final score	4 0	

In scoring for absence of passivity consider only painful feedings. Score 4 for absence of passivity in feedings of moderate pain (manifested in 2 observation units or one observation unit—evi-

## CASE 11

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
II, 4	B	6, 7, 8 Cooing, etc., during feeding phase	3 5	
		9, 10 Passivity to slowed sucking	2 0	Table V, 16
		16, 17 Talking, cooing and smiling in interval phase	3 5	Table V, 24
		Add 2 undifferentiated o u	6 0	
		Average score	(3 0)	
III, 7	A tension (presumably painful)	19 Smiling, talking during initial phase	3 5	Section V
		25, 38 Passivity	2 0	Table V, 15, 16
		Add 3 undifferentiated o u	9 0	
		Average score	(2 9)	
		Final score	(3 0)	

Note o u. 30. Passivity not scored because it occurred towards end of feeding.

## CASE 13

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
II, 3	D painful	3 Smiling — Initial phase	3 5	Section V
		20 Laughter, patting after expression of pain	5 0	Table V, 10
		Absence of passivity in painful feeding	5 0	Table V, 16
		Add 2 undifferentiated o u	6 0	
		Average score	(3 9)	
III, 4	B painful	22 Smiling, talking	3 5	Section V
		30 Light touching while baby sucked	5 0	Table V, 25
		Absence of passivity in painful feeding	5 0	Table V, 16
		Add 2 undifferentiated o u	6 0	
		Average score	(3 9)	
		Final score	(3 9)	

20. A response to baby after expression of pain and also a response during an interval phase. The response differentiated Case 13 from other mothers in several ways. However only one score is given for one observation unit.

## CASE 10

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 1	C (painful)	2, 5 No response when baby retained nipple but didn't suck (Passivity)	1 0	Table V, 15, 16
		9, 10, 12 No response as in above	1 0	Table V, 15, 16
		Add 3 undifferentiated o u	9 0	
		Average score	(2 2)	

Note that lack of response when baby released nipple (o.u. 13) was not scored because it occurred at end of period (after 30 min.) O.u. 7 was not scored because of interruption. Note also that in spite of passivity mother continued to nurse during a prolonged painful feeding Two counts for passivity when frequent.

II, 5	D	18, 19 No response when baby stopped sucking and cried	1 0	Table V, 15, 16
		21, 22 No response when baby tumbled, etc No response to baby's nipple retention	1 0	Table V, 15, 16
		Add 3 undifferentiated o u	9 0	
		Average score	(2 2)	

Other differentials omitted since they concern the same observation units, e g, low frequency of stimulation (Table V, 4), failure to restore breast after pain (Table V, 9).

III, 7	D (a period of active resistance)	26 Lack of response to slowed sucking	2 0	Table V, 24
		31 Rocking and patting during interval phase	5 0	
		Prolonged interval phase	1 0	Table V, 22, 23
		32-34 Lack of nursing response to a crying and wakening baby	1 0	Table V, 15, 16
		Add 1 undifferentiated o u	3 0	
		Average score	(2 4)	
		Final score	(2 3)	

31. Difficulty in scoring the category A response because rocking and patting were used as part of method of terminating the feeding at an unusually early stage in the period Nevertheless it was scored 5 according to the rule. Note that one score for expression of affect is given for entire interval phase

stimulation nor sufficiently repeated in a form that defined it clearly as positive affect, hence a positive score of 4 instead of 5.

CASE 16

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
II, 2	E	26, 27 Long delay of initial phase	1 0	
		26, 29, 32, 34 Distraction	1 0	Table V, 14
		33 Passivity	1 0	Table V, 15, 17
		Minimal stimuli	1 0	Table, 4, 5
		Absence of response in initial phase	1 0	
		Average score	(1)	

Note that 16 I was not included because nurse was present and active most of the time.

(26, 27) Only instance in all feedings.

(26, 19, 32, 34) One score for distraction. Note that this is the lowest scoring record which means there is practically no undifferentiated (basic) response.

III, 6	B	38, 39, 41, 45 Passivity	1 0	Table V, 15
		40, 42, 43, 44 Distraction	1 0	Table V, 14
			1 0	
		End phase negative response	1 0	Table V, 26
		Add 1 undifferentiated o u	3 0	
		Average score	(1 4)	
		Final score	(1 2)	

Note single score for passivity and single score for distraction. Either passivity or distraction could be scored twice because of its frequency. Note one undifferentiated unit. At least mother nursed the baby.

Allow one score for units of "basic behavior" when they occur.

Note that stroking in o. u. 43 was not counted since mother did not look at baby when it occurred.

Note that o. u. 36 (derogatory remark after frustration) was not scored nor lack of response after a B feeding since there were so many other scores of 1.

## CASE 14

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 1	A painful	9 Stroked baby's hair after expression of pain	5 0	Table V, 10
		10, 18 Passivity	1 0	Table V, 15
		Prolonged interval phase	2 0	Table V, 23
		Add 2 undifferentiated o u	6 0	
		Average score	(2 8)	

10, 18. Count for 2 units of passivity to "incentives" other than slowed sucking is 1.

II, 4	A	15, 17 Passivity	2 0	Table V, 15
		20 Laughing, etc during interval phase	3 5	Table V, 14 C category
		Add 3 undifferentiated o u	9 0	
		Average score	(2 9)	

Note in II that prolonged interval phase was not scored because of arrangement made with nurse.

III		23 Distraction in absence of pain, frustration or tension	2 0	Table V, 14
		30 Passivity	2 0	Table V, 15
		Add 3 undifferentiated o u	9 0	
		Average score	(2 7)	
		Final score	(2 8)	

O. u. 32 not scored for distraction because it was close to end phase.

## CASE 15

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
II, 4	B frustration	13 Patting while baby sucked	4 0	Table V, 25
		15 High point of frustration	4 0	Table V, 8
		Absence derogatory remark		
		Add 3 undifferentiated o u	9 0	
		Average score	(3 4)	
		Final score	(3 4)	

13. Mother patted baby, quickly went on to her favorite poking stimulation. The patting was not as clearly differentiated from

## CASE 20 (Continued)

III, 5	E pain and frustration	41 Groaned and then shook baby hard	1 0	Table V, 11.
		45. Passivity to slowed sucking	2 0	
		49 Lack of restoring or display of affection after pain	1 0	Table V
		Add 2 undifferentiated units	6 0	
		Average score	(2 0)	
		Final score	(1 8)	

## CASE 21

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 1	E frustration	1 Laughing Initial phase	3 5	Table V, 8
		3, 4 Derogatory remarks	2 0	
		11 Cuddling, etc during feeding phase	4 0	Table V, 24
		6 Rough stimulation and highest frequency stimulation on early post-natal day	1 0	Table V, 3
		Add 1 undifferentiated u o	3 0	
		Average score	(2 7)	

Note laughter in unit 1 is a questionable score because relative to baby not evident.

II, 4	B	16 Verbal response only, to baby quiet and awake (initial ph)	1 0	Table V, 18
		7, 25 Smiling, laughing, regarding during feeding phase	3 5	
		Add 3 undifferentiated o u	9 0	
		Average score	(2 7)	
		Final score	(2 7)	

Note that interval phase was not scored since it came close to end of the period.

## CASE 18

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 2	E	1, 2 Smiling, stroking (Initial phase Category A response)	5 0	Table V, 1
		3 Stroking while nursing	5 0	Table V, 25
		4 Patting, etc during interval phase	5 0	Table V, 24
		5 Patting in end phase	5 0	Table V, 26
		Add one undifferentiated o u	3 0	
		Average score	(4 6)	
II, 4	E frustration	13 Stroking while nursing	5 0	Table V, 25
		High frequency stimulations in E feeding	5 0	Table V, 5
			5 0	
		Mild pattern of stimulation during frustration feeding	5 0	Table V, 6
		Absence derogatory remarks during frustration	4 0	Table V, 8
		Add one undifferentiated o u	3 0	
		Average score	(4 4)	
		Final score	(4 5)	

Note observation units 1, 2, and 3. One score is given for initial phase response. O. u. 3 continues into feeding phase and is therefore scored separately.

Note in observation period II that three scores characterize the observation period rather than separate observation units.

Note in observation period I, one score each for initial, feeding, interval and end phase

## CASE 20

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 1	E	5, 6, 7, 8 Passivity	1 0	Table V, 15, 17
		Paucity of stimulations	1 0	Table V, 5
		Absence of response in interval phase	1 0	Table V, 24
		Add 2 undifferentiated o u	6 0	
		Average score	(1 8)	
II, 3	C	18, 19, 20 Passivity	1 0	Table V, 15
		21, 22, 23 Passivity	1 0	
		Absence of response in interval phase	1 0	Table V, 24
		Add 2 undifferentiated o u	6 0	
		Average score	(1 8)	

Note 2 scores for passivity because of frequency.



## CASE 25

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 2	E frustration	7, 12 Laughter during feeding phase	3 5	
		Absence derogatory remarks during frustration	4 0	Table V, 8
		Add 3 undifferentiated o u	9 0	
		Average score	(3 3)	
II, 4	C (presumably painful)	26 Stroking etc during interval phase	5 0	Table V, 24
		Add 4 undifferentiated o u	12 0	
		Average score	(3 4)	
III, 6	A (presumably painful)	51, 54 Stroking during feeding phase	5 0	
		Add 4 undifferentiated o u	12 0	
		Average score	(3 4)	
		Final score	(3 4)	

## APPENDIX C

## Rules for Scoring

Rules for scoring observation records of scheduled breast feedings in the first postnatal week may now be drawn. It is assumed that there is no complicating illness. It is assumed that the observer has learned to classify the feedings (A, B, C, D, E, painful, frustration, tension).

*General*

1. Limit number of scores to 5.
2. Include at least 1 score of 3 to represent "basic maternal behavior." (Since 5 is the highest separate score, the average highest score for an observation period is the average of four 5's and a 3 = 4.6, and the lowest is the average of four 1's and a 3 = 1.4. One of the 35 feedings scored was an exception to the rule. See Case 16, I).
3. A score of a single observation period may be a valid representation of maternal attitude, barring unusual conditions, e.g., a feeding that is painful throughout as in Case 23, II, or a feeding in which the nurse spends much time with the patient (Case 16, I). As a measure of safety however use a minimum of 2 observation

## CASE 23

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 2	E tension (presumably painful)	7 Patting etc during feeding phase	5 0	Table V, 24
		10 Smiling, feeling during interval phase	4 0	
		11 Patting at end phase	5 0	Table V, 26
		Absence passivity	5 0	Table V, 16
		Add 1 undifferentiated o u	3 0	
		Average score	(4 4)	
II, 4	A	23 Patting during interval phase	5 0	Table V, 24
		Absence of passivity	5 0	Table V, 17
		Add 3 undifferentiated feedings	9 0	
		Average score	(3 8)	
		Final score	(4 1)	

Interval free A feeding so counted because interval phase which followed the baby's regurgitation was quite brief.

## CASE 24

<i>Obs Period and Postnatal Day</i>	<i>Classification</i>	<i>Behavior Unit</i>	<i>Score</i>	<i>Reference</i>
I, 2	B	3, 8, 9 Regarding, laughing, talking during feeding phase	3 5	
		14, 16, 20 Regarding, laughing, talking during feeding phase	3 5	Table V, 8
		Absence derogatory remarks in frustration feeding	4 0	
		Absence passivity in painful feeding	5 0	
		Add 1 undifferentiated o u	3 0	
		Average score	(3 8)	

As compared with Case 9, the regarding, laughing, etc. was frequent and continuous. In such cases category C response is scored twice.

Both feedings of Case 24 were interval-free though painful. Case 13 was the only other case so characterized. Differentiation of this finding in view of the difficulty of gauging intensity and tolerance of the pain was omitted.

Observation period II was apparently continuously painful and hence not scored for attitude. This was the only observation period regarded in this way (see Chapter V, section IV).

	Score
Paucity of stimulation in D or E feeding (frequently 5 or less). See Cases 10, I; 16, I; 20, I.	1
High frequency and variety of stimulation in E feeding or fourth or later postnatal day, rough stimulations (frequency 25 or more). See Case 18, II.	5
When verbalizations are used in response to frustration	
Derogatory remarks (bad baby, nasty baby, etc.). See Cases 7, I; 9, III; 21, I.	2
Absence derogatory remarks See Cases 15, II, 18, II; 24, I.	4
NOTE: When the same observation unit includes roughness and derogatory remarks to frustration score once.	

### 3. Painful feedings:

	Score
Display of affection after direct expression of pain. See Cases 8, III; 9, I; 13, II; 14, I. Score according to categories A, B, or C.	3 5, 4, or 5
Failure to restore breast or display affection after direct expression of pain See Cases 10, 20, III	1
Rough activity on baby following direct expression of pain (body shaking, etc.). See Case 20, I.	1
	Score

### 4. Passivity:

Lack of response (stimulation) when sucking slows down	2
Do not score when not quite evident, and when there is a single notation Two scores when frequent (more than 2 observation units). See Case 10, III.	
Lack of response to conditions other than slowed sucking; e g, sucking movements, nipple retention, nipple release, crying and falling asleep (see Chapter V, section XVII). Two scores when frequent (more than 2 observation units). See Cases 10, I, II, III; 11, III; 14, I, II, III	1
Absence of passivity in feedings with pain, tension, and absence of frustration Do not count feedings with minimal pain (one o u of pain plus absence of tension). See Cases 8, I; 9, III; 13, II, III; 23, I, II.	5
Note: Do not count passivity when it comes near end of feeding phase.	

### 5. Distraction:

	Score
Distraction in absence of pain or frustration (conversation with other patient or reading during feeding phase). Two scores when frequent (more than 2 o u's).	1

periods, one in the first three postnatal days and one in a later day.

4. Score one observation unit once.

5. It is assumed as in this study that the patient is willing to be observed, that there is a single observer who stands near the foot of the bed, does not initiate conversation with the patient and responds to conversation initiated by the patient by a nod or a few words.

### *Special*

1. Display of affection, "positive social response," "positive affect." Score only when the response is relational, i.e., when the mother is looking at the baby. Looking at the baby and then averting the glance (as in 8, I) is accepted. Stroking the baby while talking to others (16, III) is an example of non-relational behavior. Smiling and laughing must be observed carefully since they are often non-relational responses.

#### Display of affection:

	<i>Score</i>
A Pattern of display includes patting or stroking	5 0
B Pattern includes cuddling or rocking but not A	4 0
C Pattern includes laughing, squealing, but not A and B.	3 5
D Regarding (long looking), smiling, or in combination with cooing or talking or kissing sounds	3 5
E. Single response of cooing, talking, or kissing sounds No response.	No score or 1 (see below)

For positive affect score once for each phase, excepting feeding phase in which two scores are used when response is frequent (4 or more observation units). See Case 24, I.

E response is not scored for initial phase unless baby is quiet and awake.

E response is not scored for feeding or end phase.

E response is scored for interval phase, unless it is near the end of the period. See Case 21, II.

Note: Score for positive affect is considered again under painful feedings.

#### 2. Stimulation and frustration:

	<i>Score</i>
Rough stimulation in first three postnatal days	2
Roughness is defined as strong rolling or shaking movements (Case 7, I), or other strong stimulations of high frequency (Case 21, I).	
Rough stimulation in response to frustration (strong rolling or shaking movements). See 20, III.	1
Mild stimulation in response to frustration (Mixture strong and mild). See Case 18, II	5

## CHAPTER 7

# METHOD AND APPLICATION

## SECTION I

THIS study began with an attempt to find a better way of determining the presence of an attitude than a poll of opinions. The observations which were screened for the presence of attitude were limited to small segments of the behavior of a relatively small number of people in a special situation. Other than certain limited medical data and knowledge derived from a brief interview concerning maternal interests nothing was known of the past history of our subjects, nor of the intervening history between the periods of observation. These limitations were accepted as a necessary prerequisite for an exploratory analysis of small specimens of behavior. As the work progressed the knowledge derived from the interview was set aside in order to base the analysis on observations alone.\*

The specimens of behavior had certain characteristics in common. All of them were observations of healthy mothers and their babies seen together in hospitals during the first postnatal week for varying periods of time determined by the duration of the baby's presence for feeding and non-feeding visits. As specimens of relational behavior they represent relatively specialized and simplified forms since the verbalizations were limited to one member of each pair and the activities were in most instances concerned with a specific type of functional behavior limited to a short span of time.

## SECTION II

For the task of identifying and quantifying the attitude under investigation we utilized observations of a series of mothers with

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\*The absence of the life history or of the current events — the anamnestic data — preclude a study of the development of the attitude in question. The investigation of the attitude is restricted to the data of observation.

## 6 Interval phase

Display of affection during interval phase	See under display of affection
Absence of positive response after an A or B feeding (category E) See Case 16, II	1
Prolonged interval phase in A, B, C or late D and E feedings Score 2 when 8 to 12 minutes Score 1 when 13 minutes or longer See Cases 9, II, 10, III, 14, I, 16, II, III, 20, II, III	2 or 1

## 7 End phase

	<i>Score</i>
Display of affection just before or while nurse was leaving with baby See Case 18, I, 23, I	See under display of affection
Proof of indifference other than "no response" (as in Case 16)	1
Watching, verbal response, kissing sounds	No score

NOTE Scoring maternal behavior "just before" or "while" nurse was leaving helps to overcome inaccuracies in differentiating response to baby when nurse carried him away or wheeled him away "Watching" may prove to be a differential when more data and more detailed observations can be accumulated

pose of a first-aid in differentiation. It facilitated the task of knowing where first to look for behavior that contained a differential for attitude.\*

### SECTION III

Why use a check on a finding derived from the test of extremes? If the most and the least maternal women compared by means of a specific kind of behavior act in the same way why is that not reason enough to look elsewhere for a behavior that will differentiate them? Actually no instance was found in which a behavior that was not differential for the extreme cases was differential for the others. The check which was used turned out to be unnecessary.

Suppose however that a behavior is differential for the extremes. In that case it is convenient to check the findings by use of the interview ratings for the following reasons.

1. The difference may be due to factors other than attitude, including chance factors (as described in Chapter 1). In that case the fact that the behavior is also differential for those above and below the median for maternal attitude is in favor of the attitude factor.

2. The difference may be a true difference but limited to the extremes. When that occurs, as it has in a number of instances, the fact can be ascertained readily by the check method described.

As the reader has learned there are other ways of determining the presence of attitude in behavior than by use of the interview ratings. They were however a useful, almost necessary aid in facilitating the investigation.

### SECTION IV

In the previous section an example was given of a behavior that was not differential for maternal attitude when analyzed exclusively for its presence or absence. When present the problem of differentiation remained since the behavior was manifested in a variety of forms, one or more of which might contain a differential. The same tests were employed. In the case of the greeting four varieties of its expression were discerned. In the process of classifying a

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\*The greeting was chosen as an example because the psychiatrists and psychologist who first judged the records were most consistent in ascribing a positive attitude to that behavior when it was present and a negative attitude when it was absent.

known differences in the manifestation of the attitude, operating in comparable situations which were subject to certain controls.

Our surest clinical measures were found in the most and the least maternal members of the series. They were readily selected by observations alone. It was important to know however at the beginning that the group under investigation was not skewed, but contained samples appropriate to a gradient series. For that purpose, as a preliminary device we utilized an interview based on a standard set of questions which had proven to be useful in previous studies of maternal attitude. It gave assurance that our series of cases was well distributed. It contained a good range of samples that spread from the midpoint to both ends of the scale. There was also the reassurance that the "extremes," so determined by obvious clinical findings, were also "extremes" according to scores derived from the interview.

The behavior of the extremes was employed as a crucial test of the presence of maternal attitude. Since the attitude is based on a feeling for the baby the extremes represent a very large and a very small quantity of it (high and low maternal attitude). Let us consider any type of behavior displayed by the members of the group. If the behavior is affected by a feeling for the baby then we would most likely find a difference in the behavior when there is much feeling and when there is little. Consider the greeting. Some mothers greet the baby, others do not. Is the presence or absence of a greeting due to maternal attitude? The most and the least maternal members of the group greeted the baby on some occasions but did not do so on others. The presence or absence of a greeting as an independent datum is therefore not a differential for attitude.

The interview ratings were found to be most useful in comparing cases above and below the midpoint. A check on the conclusion drawn from the behavior of the "extremes" was made by comparing all the more maternal with all the less maternal according to their position on the interview-rating scale. The result was the same. Mothers above and below the median were not differentiated by the presence or absence of the behavior classified as a greeting.

In the use of the interview ratings we need not be too concerned with the accuracy of each ranking. As long as we were reasonably sure that there were more maternal than less maternal women in the ranks above the median position it served our provisional pur-



were always present. Again as in the case of the greeting their components could be differentiated for attitude. Another example of the value of analyzing all the possible factors in a maternal response is concerned with the simple activity of patting the baby's back. It may represent burping, wakening, activation of sucking, affection, impatience, anger or random movement.

Patterns are types of response consisting of one or more components. Each component is a simple activity or even passivity. Thus there are patterns of stimulation and patterns of passivity. A pattern may be reduced to a single activity as in a pattern of greeting that is reduced to a verbal response, or a stimulation pattern limited to nipple insertion.

Patterns vary in response to different situations and to the same kind of situation though all of them have characteristics in common. They vary also with the individual. Each individual may have a characteristic pattern of response, and a characteristic modification or adaptation of the pattern of response in different situations.

A simple activity or passivity or any quality of behavior may be used for comparative purposes separately or as a component of a pattern.

Thus the stimulation patterns of all mothers increased in number or variety or both as babies decreased their sucking response during the feeding phase. Each mother revealed a characteristic pattern of stimulation, a "favorite method" when the baby sucked well and when it sucked poorly. Each mother revealed a characteristic pattern of response to moderate or severe pain during feedings and all the pain patterns had common characteristics. A single component of a stimulation pattern, for example, rolling the baby's head, differentiated the behavior of some mothers from others in a significant way.

Patterns were differentiated for attitude by means largely of their components; in terms of variety and sequence, duration in time, frequency, and intensity. Considered in relation to situations they were differentiated also by means of their presence or absence. Thus patterns of distraction varied as to variety (initiating talk, responding to conversation, listening to others, reading) and sequence (characteristic topics of talk followed success or failure in feeding). They differed also in frequency, duration and intensity (the latter for example in response to the resistant baby). They

number of methods were used depending on the special components of the behavior, on their relation to other behavior, and on a trial-and-error fitting with the measures of maternal attitude derived from the interview ratings. The last method, as explained in previous chapters was employed after the methods based on observations alone were exhausted. Thus in the case of the greeting the classifications began with bodily contact and ended with verbalization. The differentiation of patting and stroking from other forms of body contact was first tried when it was found that the later appeared to be a characteristic expression of the most maternal mothers in various phases of the feeding period. Verbalization as an exclusive form of greeting was found to be characteristic of the low maternal. As a form of physical contact holding of an arm, or toying with the baby's hand was an item which in itself had no differential value for attitude.

When special clusters of responses (patterns) were investigated it was important as stated in previous chapters to study their content and function as fully as possible before considering their value as indicators of maternal attitude. Since maternal attitude is one of a number of factors operative in a behavior, preoccupation with that factor alone might readily lead to error. Consider the response of roughness in activating the baby's sucking. It was found to occur in feeding failures in which the baby responded in a characteristic manner. The study of the baby's reaction had a value of its own in contributing to our knowledge of the newborn's ability to resist the proffered breast in an active way, and also of the manner in which the sequence of resistant maneuvers formed a pattern of frustration of the mother. Under such conditions mothers responded in a provocative manner in action and words, whether high maternal or low. Now suppose the small number of mothers found in the situation described were all below the midpoint of our scale. In that case we would be unable to give the reaction of frustration an attitude value since we lacked appropriate comparisons. Careful study of the stimulation patterns under the diversity of conditions in breast feedings would lead us to anticipate from maternal response the difficulties below the level of a "frustration feeding" that the stronger reaction could be consistent with the behavior of the more maternal.

Patterns of response to frustration could not be differentiated in terms of presence or absence. Under the conditions referred to they

pared. However small the number of situations that could be found as the number or specificity of conditions required of the situation increased they were included in our study. The number of situations based on the number of feedings in which they were found varied from 5 to 36. Of the 26 situations used in the comparative tables, about half of them were found in 12 or more feeding periods, most of them (22 situations) in 8 or more.

Variations of patterns among the breast feeders that contained differentials for attitude were found most frequently in difficult feedings, difficult because of the baby's resistance to sucking, or his vigorous or painful sucking. Behavior in trying situations like the situations themselves could be classified into a larger number of patterns and supplied a larger yield of attitude differentials than behavior in easy situations.

The term basic maternal behavior was used to represent behavior characteristic of all the members of the group. It may be extended to represent the common characteristics of patterns; or of patterns in particular situations. Thus breast feeding as such or certain ways of feeding, since they were characteristic of all the breast feeders, was regarded as basic maternal behavior, or as a base line of behavior undifferentiated for attitude.

## SECTION VI

Patterns were analyzed first as independent variables, as variables dependent on situations, and as variables dependent on individuals. Situations may be regarded as tests of varying degrees of differential value for the measure of attitudes. Some situations have greater value in revealing positive rather than negative attitudes or the opposite, in revealing marked rather than moderate deviations of attitude, and in revealing a small rather than large variety of deviations. They vary also in regard to the number of individuals they contain. That is to say, under certain conditions only a highly maternal mother will differ from the others in manifesting a positive attitude, under certain other conditions only a low maternal will manifest a negative attitude, and under certain other conditions all the mothers will manifest a range of attitudes positive or negative or either. Some situations may enable us to differentiate all the individuals contained within them as to positive or negative attitude without further qualification. To the statements made above we should add that the larger the number of

occurred more frequently in frustration and painful feedings than in others.

So far we have dealt with patterns as such, with patterns classified in certain ways, and in the discussion of frustration patterns, the situation or condition in which they occur. These words have been applied to entire observation periods or parts of them to characterize the phase of a period, the condition of the baby, special feeding difficulties, etc., in general the special conditions under which maternal behaviors were compared (see Chapter 6, Table IV). To return to our first example, the presence or absence of a greeting as such was not differential for attitude. Certain kinds of greeting were differential, depending on their components. Certain kinds of greeting were differential depending on the condition of the baby (the situation) at the time of their occurrence. Thus we must add to the analysis of maternal response the analysis of the situation in which the response occurred.

## SECTION V

A situation (Chapter 6, section V and Tables II, V, and VI) represents a specific condition or a set of conditions under which patterns of response were compared. Thus in the initial phase patterns of greeting were compared in situations in which the baby arrived crying or asleep or quiet and awake. Stimulation patterns were compared in situations representing different classes of feeding success, and also in the same situations in early and later days of the postnatal week.

When we are able to discern a type of response or pattern the question may be put, how does the pattern change in different situations? Variations of the patterns may contain attitude differentials. Situations vary in their capacity to elicit them. Hence all the situations were carefully sought out and studied for their influence on patterns. In other words under certain circumstances mothers may have a better opportunity to reveal their feelings for the baby than in others.

The number of comparable situations vary in frequency depending on the prevalence of the patterns or the special components, selected for study. Thus all the observation periods contained situations in which patterns of greeting could be compared; most of them contained situations in which stimulation patterns could be compared; less than half in which pain patterns could be com-

compare in each of them, and also in regard to the signs of the attitude they elicit.

The attitude has been analyzed by comparisons of the behavior of the individuals, as described, in such a way that we can say this kind of behavior reveals more of it than another kind. We have therefore two methods of determining the consistency of our measure, one the consistency of the position of each individual when compared with another in each situation; the other, the consistency with which he manifests the attitude.

Consistency of comparisons of rankings can be seen in Table IX, consistency of the average scores of the records of each individual, in Table X of Chapter 6. The scores of attitude in the case of a mother observed during 2 feedings, in one of which the baby sucks vigorously and in the other hardly at all are nearly the same. Consistency implies that in both feedings her behavior can be differentiated from others by the same measure.

Suppose the members of our group were all inconsistent as a result, let us say, of various emotional difficulties occurring in their past history or in the intervening feeding periods. The method of analysis as described would indicate the inconsistency and also a measure of its degree. We would then infer that maternal attitude is inconsistent according to our measure of it in the first postnatal week, or that the number of observation periods was too small to test it out properly, or that the hospital situation and scheduled feedings were inappropriate sources for it. All our evidence however is in the direction of consistency. But suppose a larger group would reveal marked inconsistency in a few cases. That would present a problem that could be surmounted. If however in our small group a few cases showed marked inconsistency, i.e., evidence of highly positive maternal attitude during one observation period and low maternal during another, it would seriously affect our findings.

The consistency of the attitudes of extremes using the method of case comparisons may be tested as follows.

1. In every situation in which they are present their attitudes are consistently plus or minus.
2. When in any situation in which they are present there is an unqualified plus or minus deviation limited to one or more members they are represented and consistently so.

individuals who are compared in a given situation, and the larger the number of components in the patterns, the more likely are we able to find a range of values in the attitudes that are revealed.

When the pattern of stimulations of 13 mothers was compared for roughness (as defined in Chapter 2) during the first 3 postnatal days, 2 of them could be separated from the others in regard only to negative attitude. A comparison of seven mothers for patterns of stimulation during frustration feedings separated 2 mothers from the others, one a high maternal, the other low. A comparison of 13 mothers for social response patterns during interval phases resulted in a distribution of the 13 in 4 gradations of positive and negative attitude, with 4 in the highest and 3 in the lowest category of response.

In the task of learning how patterns were modified as conditions changed during an observation period or from one period to another it was found especially valuable to study the behavior of the same individual. Modification of the patterns of response of the same highly maternal mother in an early and late postnatal feeding, or in a painful and frustrating feeding, for example, was found to be a more fruitful source of investigation for the meaning of the modification as an adaptation, or for the differentiation of factors, than a comparison of patterns and their situations alone. It was also employed as a useful check on the general findings.

In testing for attitudes the method might be regarded as based on observations of differences of maternal reactions to stimuli. In that sense each situation would be viewed as a kind of specific stimulus. The problem is more complicated than that. Instead of reaction we have an interaction within a situation in which both infant and mother are responding, a situation which can be treated separately from the others by virtue of its special characteristics. The word situation has at least the virtue of this inclusive meaning.

## SECTION VII

In the measure of maternal attitude we are limited to a measure of differences in its manifestation by individuals. We can say that one individual reveals more of the attitude than another in a number of situations which have been found to favor its expression in some way. These situations differ from each other in regard to frequency, hence in the number of individuals we are able to

The consistent indifference of the lowest ranking mother precluded the negative finding of roughness.

This test of consistency may be too exacting. Further study may result in a modification, eliminating those situations in which the differential is inappropriate because it is precluded by a particular pattern of response.

When instead of consistency of response in each situation we use as our measure consistency of rankings in each situation, the most maternal mother is consistently above everyone else. The least maternal is consistently below everyone else in 14 of her 16 situations (Table IX, Chapter 6).

In this type of comparison every member of the group is compared in every situation in which they are available with every other. Thus (Table VII, Chapter 6) Case 7 was available for comparison with Case 8 in 8 situations, in all of which Case 7 was consistently less positive. In the situations in which Case 7 was compared with Case 10 we have the highest discrepancy. Case 7 was more positive in 5 situations, less so in 4. By adding up all the discrepancies in each paired comparison we can derive a measure of consistency of the relationship of one individual to another in all the situations in which comparisons were made. Thus Case 7 ranked above Case 10 in 5 of 9 situations, above Case 11 in 3 of 4; above Case 20 in 9 of 10. The inconsistencies were in 4 situations with Case 10; in 1 with case 11; in 1 with Case 10. In 93 comparisons, Case 7 was inconsistent in 13. Computing the percentage of consistency on that basis the range of consistency is 95 to 100 percent for the first 8 ranks, 98 to 100 percent for 5 of them. For those below the eighth rank the highest consistency is found in the lowest (96 percent) and next to the lowest rank of the breast-feeders (95 percent). The least consistent are in the 5 ranks below the midpoint (range 82 to 92 percent). Excepting 1 case (10) the least inconsistencies of those below the median are in the lowest four ranks. As explained in Chapter 6 we would anticipate increased consistency measured by the method employed or more roughly by the number of cases as we approached the ends of the scale. We did not anticipate that the larger inconsistencies would be found only below the midposition. The conjecture was made (Chapter 6, section VII) that the finding may have been due to the limitation of the feeding situation as a basis for comparison, to our method of selecting and analyzing such situations, or to the

3. When gradients of plus or minus deviations occur they are represented consistently in the highest or lowest gradient.

The second and third propositions are more exacting than the first since the latter requires merely the presence of a plus or minus indicator.

The test of consistency as stated above would require evidence of the most positive sign for the top ranking member of the group when present in every situation containing an attitude differential. The top ranking mother (Case 18) was present in 17 situations. Seven were differentiated for signs of negative attitude, only 3 for signs of positive attitude, and 7 for both. In all of them she was consistently positive, exclusively positive or the most positive in all the situations in which such deviations occurred (7).

When applied to the lowest ranking member of the group we have 16 situations for the test of consistency. This mother revealed the exclusively negative or most negative response in 8 situations. She revealed no positive responses in the 9 situations in which positive responses occurred. However in three situations in which only negative responses were differentiated she was not consistent (Situations 3, 22 and 23, Table V, Chapter 6). In one of them the differential was based on rough stimulation on an early postnatal day; the remaining two were concerned with the length of the interval phase. She was included in one of them but not as the most negative of the 5 individuals with negative response. The reason for this discrepancy will explain many of the other discrepancies found in the group (see section VII and Table IX on inconsistencies in rankings, Chapter 6). A negative response may by its own consistency rule out another type of negative response. Thus if a mother consistently reveals a negative attitude as a result of indifference, she cannot reveal a negative response as a result of excessive activity. That is, one kind of behavior may preclude another. Another source of inconsistency is found when any individual differs from the others in regard to a special or specific manner of manifesting attitude in either a positive or negative direction. Our lowest ranking member was the most indifferent of all to the baby when measured by social response, frequency and variety of stimulation, passivity, and distraction, but not in regard to the length of time taken out of a feeding period. The latter was a special feature of the behavior of another low ranking mother.



The value of a varying rather than a set period of time for observations has also been considered (Chapter 1). The set period of times carries the danger of lopping off the end phase and other features of a well defined process.

The notation of the time at which an event occurs during an observation period is an important consideration. To prevent distraction our observer was asked to record the time for selected events. The result as noted in Chapter 5 was not adequate. In another study referred to (see Introduction) 5-minute intervals were noted. It has the disadvantage of losing the exact beginning of an event for which an interval of a few minutes may be worth recording. An automatic time indicator might be useful (see Chapter 6, second footnote).

The influence of the duration of the observation periods on maternal response was studied by the same method pursued for other problems. It was found that the difference in amount of time available for each feeding had apparently little or no influence on the response patterns investigated (see Chapter 5, section I).

A corrective for differences in the number of units per observation period when their scores were computed can be found in Appendix C of Chapter 6.

The records of observation periods were divided into successive units, representing a chronologic series of events occasioned by modifications of behavior of mother or infant. Since in most instances maternal behavior was seen overtly as a response to the infant's behavior it was labeled "maternal response."

The value of this manner of recording is sufficiently obvious. The problem of just what constitutes a unit requires some discussion. Consider the following sequence. The baby was brought in awake and crying. The mother cooed and turned to her left side. The nurse put the baby on the bed next to the mother. The mother gave the baby her left breast. This sequence of events forms two units: maternal response immediately before and after the baby was placed on the bed. Ordinarily both events would have been recorded as one. (The baby was brought in awake and crying and placed on the bed. The mother cooed and gave the baby her left breast.) The same rule follows when the behavior may be initiated by the mother. Thus the mother may decide to burp the baby or stop a feeding, whether or not the record contains the usual obser-

fact that more maternal mothers differ from each other more consistently than the less maternal. To these conjectures we may add the valid reasons already set forth. A study of the inconsistencies in detail has been made in the previous chapter.

### SECTION VIII

In the scoring of each unit of behavior for attitude (see Chapter 6, Appendix B), a small number of items were found which were not differentiated in the tables of comparison with sufficient accuracy for this purpose. The only method that could be applied was to estimate a score that seemed reasonable for a behavior that was more or less positive than a similar kind of behavior whose score was presumably well determined. Since the scores are derived from the comparison of individuals as noted, more exact investigation will modify these numerical values.

### SECTION IX

Certain details of the investigation, though discussed in previous chapters, may require further consideration.

The observations of mother and infant were characterized as "ordinary." The word ordinary was used to represent the kind of observation most likely to be described in the same way by nurse or physician or other intelligent person with a certain amount of direction. It was used particularly for the purpose of contrast with observations that are subtle or subjective, as in the examples furnished in the text. The professional worker in the field of psychiatry has been found more likely than others to describe behavior in a motivational way,—a natural result of his background and training. It is important in this type of investigation to secure workers who are able and willing to make observations that are "ordinary," divested of such subtleties and inferences that are implied in descriptions like "benign smile" and "a hostile manner in the way she held the baby."

The test of clarity and consistency of observations by a comparison of the records of several observers at the same bedside, or by the use of sound movies has been discussed previously. A number of such methods are now employed in a similar undertaking. For hospital work the employment of a separate single observer for each case has the special advantage of simplicity.

terns. The count of activities or patterns according to the number of units in which they occurred was found generally more useful in the differentiation of attitudes.

The "phases," initial phase, feeding phase, etc. were the first demarcations of the records to be made. Each phase represents for the mother a different functional orientation. In each phase the mother gives a different emphasis to her role. In the initial phase she stresses greeting, in the feeding phase nursing, etc.

The study of behavior within the boundary of a phase simplified the procedure and made possible a more methodical approach to the problem of analyzing the numerous details and complexities of response. Each phase was worked out as a separate undertaking before the relation of one phase to another or the observation period was studied in its entirety.

The reader will note that the early demarcation of end phase was later divided in 2, in conformity with the finding of different modes of response when the nurse was on the way to take the baby and when both baby and nurse left together.

## SECTION X

There remains the problem of specificity of feeling. How do we know that the difference in the behavior we have attributed to maternal feeling is not some other feeling, or if it is maternal feeling that it is simply that and not part of a complexity of feelings? Let us consider the first part of this problem; maternal feelings versus other feelings. In the investigation of stimulation-patterns it was found that persistency in getting the baby to suck, as measured by the frequency of stimulating activities, was an attribute of some mothers both high and low in maternal feeling. In a few cases it was found that other than persistency of this sort there was little to differentiate them from others. It was found also that a very low scoring mother was differentiated from others by unusually frequent stimulations during the first 3 postnatal days. By consideration of other observations including roughness in the stimulation-patterns it was not difficult to infer that persistency can be explained by feelings related primarily to getting on with the job with little or no evidence of positive or negative feeling for the baby, and also as behavior in which positive or negative

vations of the behavior of the infant that precedes such activity. A change in the mother's behavior constitutes a unit.

While the baby is sucking the mother's response to the baby changes as the sucking grows weaker. Suppose when the sucking grows weaker the mother does not change as she usually does by stimulating the baby's sucking. That sequence is also demarcated as a unit. Thus any change of behavior on the part of either infant or mother is recorded as a unit. The absence of maternal response may be more significant than its presence.

Consider the following sequence of "units."

1. Baby's sucking became slower; mother jiggled breast made kissing sounds and cooed.
2. Baby closed eyes, sucking continued though slower; mother made no response.
3. Baby released nipple; mother put nipple back in mouth and jiggled breast rapidly, etc.

Each change in maternal behavior is evidently occasioned by a change in the baby's behavior, except in unit 2. The behavior of the baby as described in that unit is in most instances followed by maternal response (Chapter 4, Table IX). Division of the record into units is thus a device that simplifies the problem of analyzing the details of a dynamic (changing) interplay of relational behavior. The unit represents the smallest convenient representation of a sequence of behavior on the part of either mother or infant or both.

Division into units follows in the main the sequence of change in the baby's state or behavior. This can be seen even in the briefest non-feeding visit (see Case 15, I). In a record of a 5 minute visit there were 5 observation units. The baby was brought in by the nurse, put beside the mother. The baby yawned, then cried, and was taken away. After each one of the 5 events recorded above the mother responded in a special manner which could be classified and analyzed.

Specific activities can be counted separately or by the number of units in which they occur. Thus we may count the number of times a mother used nipple insertion as a method of stimulation or the number of observation units in which that type of activity was employed. Depending on the particular kind of behavior that is studied, either method may be preferred. The count of separate activities was found to be more appropriate for analysis of pat-

maternal feeling in man as in animal is a feeling of possession.\* From the possessive feeling the other components such as protection (manifested in our study by "devotion"), interest, and the others could be derived. Their dependency on a possessive feeling could be investigated by an analysis of behavior in a larger undertaking than our own.

## SECTION XI

The methods used in this study can be applied generally to the study of relational behavior, more specifically to diadic relationships observed in similar situations subject to some measure of control. Thus in its present application to the study of mothers and their schizophrenic children observed during visiting hours in a hospital the conditions for such an investigation are suitable.

In all such applications there will be certain modifications in the employment of observation units, phases, situations, patterns, item-analysis, frequency of observation periods, selection of observational data and the utilization of "criteria" cases. The problem of consistency will most likely remain essentially the same.

Though in this study the main stress was placed on maternal response a detailed study of the behavior of the infant was essential. It demonstrates not only how the play of activity followed the direction set by the infant but also gives rise to the inference that maternal response may in general be much more subject to the infant's behavior than is customarily believed. From our own findings the inference would follow that the closer the attitude approaches the midpoint of our scale the more likely it can be swung in either direction by the infant's behavior. Thus the highly maternal is less likely in the course of time to become average or less than average maternal when her baby cries persistently or does not respond to cuddling than a mother whose attitude to start with is average.

When applying the method to pairs of individuals it may still be advisable to focus on one individual, later on the other, to avoid an approach that may be too complicated at the start. In any case the behavior of each member will require detailed observation.

\*In the study of the earliest maternal feeling after the baby's birth, derived from interviews, the most frequent description of the feeling, when it could be described at all was "it's mine."

maternal feelings may be manifested.\* The proof at least that a behavior is patterned by maternal feeling can be ascertained in various ways.

Once this is done, however, further analysis of the maternal feeling as it is manifested in a specific response appears to go beyond the limitations of our method or our data. We can say that in a particular instance there is evidence of positive or negative maternal feeling, and that there is more or less of it in one instance than in another, but that is all. During breast-feeding, for example, some mothers after a sudden vocalization of pain immediately display affection for the baby. The feelings involved may be a mixture of sympathy, pity, guilt (for retributive impulses or breast withdrawal). One low scoring mother displayed a high degree of affection only in such an instance. Whatever the complexities involved in a more refined analysis of positive maternal feeling, we are limited to the statement that under such and such conditions the more and the less maternal mothers act in such and such a way.

The word attitude may have an advantage over the word feeling in this regard, since the specificity of feeling is not so involved in its use. The term maternal attitude need apply only to the manner in which the behavior of mothers can be distinguished by virtue of their feeling for babies, without trying to separate out all the possible elements contained within the feeling. In this investigation however we have used the terms maternal feeling and maternal attitude interchangeably.

Analysis of the manifestations of the behavior that could be differentiated for maternal attitude revealed four components: devotion, interest, affection, and tenderness (Chapter 6, section IX). Each component can be weighted and in that manner the characteristic pattern for each individual can be derived.

From this study and others we may infer that basic to all

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\*The feelings involved in successfully solving the task of feeding, as task alone, without reference to positive or negative feelings for the baby, may be related presumably to general standards of performance, to competitive strivings, to proof through the task of special virtue, to reinforcing factors in the act that "compel" completion, besides physiological factors related to lactation.

## SUMMARY

### SECTION I

**T**HIS investigation had its beginnings in the study of the mothers of patients who were seen in the practice of child psychiatry. After some years of trial and error a series of questions were selected to form the basis of a "standardized" inquiry into maternal attitudes.

The questions were used also in interviews with mothers seen in a child health station.

In the form of a questionnaire, they were tried out on groups of undergraduate women in 4 colleges. A number of correlation studies of scores derived from the interviews or questionnaires were made. These studies dealt mainly with an attempt to find possible correlates of maternal behavior with body build and menstruation.

The most recent study involving the use of scores of maternal attitude was concerned with the observation of mothers and infants in the neo-natal period. A trained observer stood at the foot of the bed and recorded the behavior of mother and baby during a feeding or non-feeding period, with special reference to the mother's response to baby, nurse or others. This was done during 2 or 3 periods for each of 19 mothers in 4 hospitals. The group of mothers were heterogenous as to national origin, religion, education and economic status. The narrative records were rendered into convenient units representing a numbered series of separable maternal responses. In the form of observation records each unit of observation was noted independently by four "judges" as to maternal attitude ("accepting," "non-accepting," and "neither"). Scores were compiled on the basis of these ratings.

Each mother also received a score based on the standardized interview. The scores derived from these ratings and those derived from the interview were found to have a significant and positive correlation. This finding meant that a woman's maternal interests

Interpretation of the meaning of the behavior enlivened the search for relevant observations and for methods of marshalling and testing the data. Interpretation led also to a judgment of the limitations of the methods and to a host of new questions. In the process the advantage of special clinical experience and knowledge would seem to be essential. In the present investigation the reader will be able to trace ideas that stem from the general fields of medicine and psychodynamics, the special field of child psychiatry, and research in maternal behavior and infancy. The clinical investigator particularly through long familiarity with his data is in the best position to understand their significance and their impact with the hypotheses in his field. It is his responsibility to develop a methodical way of investigating them, before utilizing the aid of workers in other fields.



his arrival and his departure (initial phase and end phase.) Again the responses were inconsistent in regard to their presence or absence. A mother who greeted the baby on one occasion might not do so on another. A mother who responded when the baby arrived might not respond when the baby departed, and vice versa. Such inconsistencies were found in the large majority of our records. Since it appeared unlikely that the influence of maternal feeling on this behavior could be so irregular, or, in other words, that maternal attitudes could be so inconsistent, it was time to search for other clues. Before doing so, we utilized our "clinical" measures of maternal attitude derived from standardized interviews. Of these the surest measures were the most and the least maternal.

A comparison of the most obviously high and low maternal members of the group revealed the same inconsistency. This finding held true also when comparisons included those above and those below the median interview score. The inference that because of inconsistency the presence or absence of a greeting had no differential value for maternal attitude was thus confirmed by the test of our clinical measures. It should be noted that the finding of inconsistency was based on observation and that the interview score was based on inquiry. The latter was a temporary expedient, utilized in every phase of the work until the observational method was completed.

The search for other clues led to the finding that the condition of the baby was the main factor in determining the presence or absence of a greeting, provided the baby was brought in for a feeding. Thus, in the 36 initial phase observations during breast feeding visits, the baby was greeted on every occasion when quiet and awake, on 1 occasion in 3 when crying or whimpering, on 1 in 6 when asleep. In the 9 observations of non-feeding visits the baby was greeted, regardless of such conditions on every occasion but one. Further, the greetings when they did occur, were briefer in number and variety of response during the feeding visits.

These findings, including some suggestive details in the records of a few individuals, led to the hypothesis that when a baby came for a breast feeding in the hospitals where our observations were made (and we assumed, in all hospitals where feedings were held to a rigid schedule) there was an urgency to feed at once. This urgency was strongest when the baby was asleep because in that case a strong resistance to awakening and sucking would be anti-

derived largely from questions concerning her past history (of play with dolls and babies, response to babies seen on the street, the number of babies she thought of having, etc.) and the observed behavior with her baby during 2 or 3 observation periods in the hospital were consistent. The one could be predicted fairly well from the other.

The ratings made by the "judges" of the record were, however, nothing more than opinions. How were these opinions derived? When differences of opinion occurred, how were they to be explained? In seeking an answer to these questions, the highly subjective nature of the ratings became more prominent. The search for a more objective method began. Was it not possible to get *something better than an opinion*? Further, the *test of the validity* of a rating was based on an interview. Was it possible to analyze the observations so that the determination of attitudes could rest on them alone independent of opinions or inquiry? That is what this book is about. It deals with the problem of working out a method of isolating and identifying and quantifying an attitude in relational behavior.

The process of doing so is limited to the relational behavior of mother and newborn. The numerous details of this investigation were concerned with many questions hitherto unasked. The application to other forms of relational behavior deals with the problem of isolating a special feeling-component in a particular variety of behavior-pattern, learning what it does to the pattern, and, in general how it affects human behavior.

## SECTION II

The mother's response when the nurse appeared with the baby was the first bit of behavior to which the investigation was applied. Attention was first paid to the manner in which the initial responses were scored for attitude in the preliminary study. In general, the scores were consistent in assigning any greeting with a sign denoting a positive attitude. They were inconsistent when a greeting did not occur.

In the analysis of maternal response during the initial phase the presence or absence of a greeting was first studied for consistency. In the 2 or 3 observation periods of each of the 19 mothers only 5 greeted the baby in each one of their 2 or 3 observation periods. A comparison was also made of maternal response to the baby upon

his arrival and his departure (initial phase and end phase.) Again the responses were inconsistent in regard to their presence or absence. A mother who greeted the baby on one occasion might not do so on another. A mother who responded when the baby arrived might not respond when the baby departed, and vice versa. Such inconsistencies were found in the large majority of our records. Since it appeared unlikely that the influence of maternal feeling on this behavior could be so irregular, or, in other words, that maternal attitudes could be so inconsistent, it was time to search for other clues. Before doing so, we utilized our "clinical" measures of maternal attitude derived from standardized interviews. Of these the surest measures were the most and the least maternal.

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pated. Immediate and strong efforts would be needed to get the baby to suck. When the baby came crying, the problem of immediacy had nothing to do with the mother's efforts to activate the sucking. On the contrary, it had to do with satisfying a hungry baby avid for the breast. The quiet baby who was awake presented neither problem.

Later studies revealed that as measured by the duration of sucking activity babies who were brought in asleep had the highest proportion of feeding failures, whereas those who were brought in crying had the highest proportion of successful feedings.

Since the anticipation of the baby's reactions to the breast would present no problem during a non-feeding visit, the greeting need not be inhibited. The only mother who failed to greet her baby during a non-feeding visit was found to be the least maternal member of the group according to her interview rating.

Other possible factors that may have determined the presence or absence of a greeting were also considered. They included activities and conversation initiated by the nurse, by neighboring patients, by the mothers themselves, or by "accidents" as in a case in which the wrong baby was first brought in. Such factors included also the presence of the observer, the mother's physical condition, also certain aspects of the baby's behavior other than those mentioned, for example, blinking, grunting, sneezing, etc. All such observations required careful sifting. The study of each one of them has been recorded in detail, not only to demonstrate how far a simple observational method can take us but also as a necessary procedure in the analysis of the elements of observable behavior. The result of the study of "all other factors" confirmed the inference that the condition of the baby as previously described, was the main influence in determining the presence or absence of a greeting when the baby was to be fed. The other factors, however, were shown in certain instances to have had an effect on the pattern of the response.

For the conclusion that the mother's anticipation of the problem of feeding was the main influence in curtailing the greeting was confirmed by the finding that when a greeting occurred it was much briefer in a feeding than in a non-feeding visit.

Analysis of each component of the patterns of greetings by the tests of consistency and of clinical criteria yielded a tentative range of values in the measure of maternal attitudes, starting with words

and smiling and rising with vocalization, "prolonged" body contact (holding, embracing, cuddling) and then petting and stroking.

The initial phase responses were the first ones upon which a method of analysis for identification of attitude was tried out. The chapter remains pretty much as it was written originally with very little revision derived from further experience with the method as depicted in later chapters. The revisions which appear in the evaluation of several bits of behavior (in Chapter 6) do not affect the basic method as described. The problem was largely how to utilize as a preliminary test for attitude our surest clinical measures of it; namely, the most and the least maternal member of the group. Without that aid it seemed too burdensome a task, though probably it could have been done.

The finding, for example, that the only mother who gave no greeting during a non-feeding visit was the least maternal member of the group, may explain the value of using a clinical criterion as a preliminary differential. The finding of only one such deviation, however, in this as in other comparisons of behavior in particular situations, was at first viewed as a questionable basis on which to build a method of analysis for attitude. Later it became clearer how different situations varied to the assay of attitudes. In some the attitude could be identified only when it was present in a high degree. In other words the attitude could be revealed in certain situations only when it contained mothers who were relatively very high or low in regard to maternal feeling.

### SECTION III

The feeding phase includes the period of time in which the mother was actually breast-feeding or engaged in activities directly related to the feeding, like burping the baby. The time taken out during a feeding to caress the baby, or chat with a neighbor, etc. was treated as a separate phase.

Most noteworthy appeared to be the mother's efforts to stimulate the baby to suck. A large variety of methods and marked differences in the frequency of their employment were observed. The variety of stimulations was more numerous in the earlier days of the neonatal week. The most frequent kinds of stimulating activity were rapid oscillations of the breast and nipple insertion. The stimulations employed fell readily into a scale of mild to

strong stimuli; for example, touching, patting, slapping, shaking, rolling the head or body.

In order to define differences in stimulation-patterns and to learn their meaning, tables were constructed in which all the separate activities were listed, and the parts of the baby's body on which they were employed.

The differences were found to be related to the age of the neonate in number of days, the baby's readiness to suck and to keep on sucking, and also to certain kinds of feeding frustrations after repeated failures in getting the baby to suck.

The increased frequency and variety of stimulations in the first three postnatal days was due to the larger number of feeding failures or near failures in that period of time. A classification of the feedings into 5 categories based on the number of minutes the baby sucked revealed a close relationship with the number and variety of stimulating activities. The roughest stimulations occurred after repeated failures to initiate the sucking. The increase in vigor from mild to rough during such frustration feedings allowed a weighting of the stimulations employed. The mounting energy, impatience, or expressions of annoyance appeared to be evidence of hostile feeling during the period of frustration.

Analysis of the baby's responses revealed a close relationship with the tempo and variety of stimulating activities. A combination of encouraging responses of the sleeping baby to the mother's activities indicating gradual arousal from sleep and readiness to suck, to be followed by passivity or active resistance (e.g., clamping of jaws) was the prevailing pattern that was followed by the reaction of frustration. However, such reactions on the mother's part, were, with one exception, absent in the first 3 days. In that period of time, regardless of feeding successes or primiparity, or the baby's response, mothers were sparing of rough stimulation.

The tests of maternal attitude based on the interview scores of maternal feelings revealed no differentials in regard to the points enumerated above with the one exception noted. Mothers, high maternal and low, responded with stronger stimulations as babies showed less sucking activities, and gave evidence of annoyance and impatience in frustration feedings.

Some differences were seen however in the responses or gradation of the pattern of stimulation in the frustration feedings of a high scoring mother. The rough stimulation of the first three days, an

exceptional bit of behavior also, was that of a low scoring mother.

The clearest deviations in terms of attitude were found in the paucity of stimulations during unsuccessful feedings when the baby gave signs of response (e.g., lip movements) and in maximal stimulations when the baby gave none of the signs that usually indicated such response. All the examples were of mothers well below the median. On the other hand, successful feedings in which mothers revealed paucity of stimulation or passivity (e.g., gazing at the ceiling and other signs of "unrelated" behavior) included those both high and low in maternal feeling.

#### SECTION IV

The cases first selected for the study of the manifestation of pain were those in which verbal or vocal expressions of pain were present. The indirect manifestations were seen in breast withdrawals, muscular tension, visual wandering or gazing, and passivity.

Evidence of pain was not always apparent because of variations in its severity or frequency, in the control of its expression, and in the difficulty of determining the kinds of behavior which were manifestations of pain.

Severity of pain was measured in various ways. Withdrawals of the breast immediately preceding or following vocal or verbal expression of pain appeared to yield its best measure.

Vocalizations of the type used commonly to express other sensations besides pain were differentiated by a study of the sequences of the baby's behavior and maternal response, including the absence of other signs. Immediately following the expression of pain during breast feeding four patterns of behavior could be discerned: a display of affection, withdrawal of the breast, some form of passivity (gazing or inattention to baby's response), and an increase in stimulating activities on the baby.

There was no instance in which the mother, after manifesting painful sensations, indicated her displeasure by an immediate action on the baby. In two instances in which the roughness of the stimulating activity appeared to be clearly retaliating, the activity was delayed until the baby stopped sucking.

In all 21 patterns restoration of the breast or display of affection immediately following expressions of pain or a bit later occurred in every instance but 2. These 2 were of the 2 lowest ranking

mothers of the group included in the painful breast feeding cases.

Whatever their feelings of anger or provocation because of pain, the mothers were sparing of their babies. There were few immediate reactions of rough handling and only one critical remark. Even that remark was followed by a display of affection.

This behavior was in marked contrast to the reaction of mothers during frustration feedings resulting from failure to initiate sucking. In 2 cases there was an opportunity to compare responses to pain and to frustration by the same mothers.

Following frustration direct verbalizations of annoyance or anger (derogatory remarks, threats, scoldings, expressions of impatience) excessive activity during stimulation, and the absence of the "restorative" display of affection, were common.

A search for attitudes in the verbalizations demarcated one mother from the others in the group of painful feedings. She was the only one who made a direct critical retort. In the verbalizations following frustration it was possible to differentiate those containing such appellations as "bad girl" or "nasty," from the others. Consistent failure to restore the breast or display affection after withdrawing the breast, previously mentioned, differentiated two other mothers.

Though this particular manner of maternal response in painful and frustration feedings involved small numbers of cases (8 and 8, respectively) it was thought nevertheless, since such comparisons were to be made in more and more situations involving other aspects of maternal behavior, we would have a sufficient number of tests for the consistency of differences to determine the validity of the presence of attitude.

## SECTION V

Further study was made of the kinds of behavior that occurred at the time or shortly after vocal or verbal manifestations of pain. Their relation to painful sensations was not difficult to discern. The same kinds of behavior occurred also, however, in the absence of direct evidence of pain. They were absent also in a number of instances when pain was present.

Absence of behavior that was usually found when pain was present could be explained by the mildness of the painful sensations, as indicated by the frequency and the manner of expression, especially when limited to a single verbal statement. On the other



hand, the presence of pain-related patterns in the absence of direct vocalization of pain, was sometimes good evidence of pain, as in the following sequence: baby sucks strongly, mother looks around the room, gazes at ceiling, closes her eyes, is restless and tense, her breathing is irregular, frowns, fusses with her hair, starts withdrawing the breast nipple, has the nipple halfway out, baby cries, mother says "sh - sh," and restores the breast, her eyes remain closed, she holds a hand on the breast that is sucked. The question, when are the accompanying patterns proof of pain, can be answered by careful analysis of patterns and components.

Item analysis began with the observation of the hand on the breast. This position was seen much more frequently when the baby's sucking was continuous. However, on this point our numbers were too small for statistical handling. The item is a good illustration of some of the problems of observation. (1) An observation is often lost when it appears as an activity that is ancillary to another activity. For example, the position of the hand may be ancillary to manipulation of the breast by that hand. (2) The observation is elusive and may require an expert eye, since the position of the hand may be a resting posture or a pressure designed to allay discomfort.

When the hand was used to squeeze the breast, the act was readily related to pain or discomfort. Drumming of fingers on the breast occurred also at a particular point in sequence of behavior to make the inference of pain or discomfort a plausible one. Breast withdrawals because of pain revealed no differential for attitude. The mothers concerned included some who were above and below the median of the group.

Analysis of the item restlessness and other signs of excessive muscular activity (not including stimulating activity on the baby) showed a definite relationship to pain or frustration. None of the signs were present in non-feeding visits. The item revealed no differential for attitude according to the scale derived from interviews.

Expressionless looking in the form of gazing or staring occurred in feedings both painful and otherwise. The same mother who revealed such behavior to an extreme degree in one feeding revealed none of it in another.

Varieties of visual behavior included "regarding" (long looking at the baby) inspection, self consciousness and closing the eyes, besides the expressionless looking referred to above.

Visual items were observed very frequently. They were present in one or more feeding periods of every case, with one exception. They were found to have no relation to the feeding classification (in terms of "success"), to the day of the neonatal week (early or late) or to maternal attitude. The only significant relationship was with passivity, when defined as lack of maternal response to the baby when the latter showed signs of readiness to suck or a "need" of stimulation (as analyzed in a later section).

All the visual items were tabulated and classified. The most common one was "looking at the baby" as a separate and apparently a relational act, not subsidiary to other activities like withdrawing the nipple, or as part of visual wandering or gazing. Self consciousness, arising from the feeling of being looked at while breastfeeding, was difficult to differentiate. It was noted by comparing the particular performance at the beginning of the feedings in 4 cases. In all 4 it occurred in the first 5 minutes of feedings in the first or second postnatal day. The mothers concerned were all primipara. The visual behavior was possibly briefer and the glances more darting than the other kinds.

Eye closures during the feeding phase were preceded or followed by visual wandering or gazing. They occurred in findings characterized by marked passivity. In all such feedings there was a relatively long period of strong sucking.

Gazing, visual wandering and eye closures, like passivity, represent forms of non-relational behavior. Talking to other patients or other forms of distraction may be regarded in the same way. Several mothers talked repeatedly after expressions of pain. It was apparent in some cases that distracting conversation (frequently interrupted by vocalizations of pain) was used to ease the mother's endurance of painful sucking. This form of distraction like the visual items, appeared within and without the context of pain.

A count of the talking initiated by the mothers was made according to the number of observation units in which it occurred and according to the person spoken to; baby, observer or nurse, and other patients. Particularly striking were cases in which mothers spoke frequently during one feeding and hardly at all in another. The problem of differences in the propensity to talk was

met by comparing the difference in the feedings of each case. For example, in 2 cases there was a jump from a single unit of talk in one observation period to 7 or more in another. Studies of large contrasts were followed by studies of smaller ones.

In feedings characterized by frustration it was found that mothers were more likely to address their remarks directly to the baby. This was in marked contrast with feedings characterized by pain. This might have been anticipated from previous findings that mothers were more likely to talk critically to the baby and display annoyance during frustration than during pain.

The content of the mother's conversation could be classified in terms of the (1) feeding (e.g., mother to nurse, "It comes too fast and she gets tired"), (2) stimulation (mother to baby as she tried to wake her up for a feeding, "Wake up baby"), (3) pain (e.g., mother to nurse when baby began sucking, "It hurts me."), and (4) miscellaneous (e.g., remarks about baby's appearance, intelligence, behavior, etc. and remarks by other mothers not related to the baby). Talk to the baby was most frequently concerned with stimulation; i.e., with efforts to get him to suck. On that topic relatively little was said to the nurse or others.

The opposite was true of pain. Most of the talk on that topic was directed to nurse or observer. Talk about the topic of feeding was directed fairly equally to baby and to the nurse-observer pair. By use of a comparison of frequency of talk relating to topics, it could be shown that in two feedings (which were difficult to classify) the problem of stimulation was present and of more significance than the problem of pain.

The mother's conversation, as measured by the number of unit observations in which it occurred, showed a wide variation in frequency, and in consistency, when the observation periods of the same mother were compared with each other. The same held true when the frequencies were considered in relation to the different persons addressed. In general, the baby was spoken to most frequently. Next came nurse or observer; and next, other patients. Of the various factors that were studied in relation to frequencies of talk, the only one found to be significant was "passivity." In the periods in which passivity was noted, the frequency of talk was reduced.

The word passivity was differentiated in this section from its visual form as in gazing. It was used to represent failure to stimu-

late or respond to the baby under conditions in which a response usually occurred. The method employed was to tabulate all those conditions of the baby. (For example, slowing or cessation of sucking, retaining the nipple without sucking it, sucking movements, etc., and the number of times in which activation followed.) The problem of deciding what to include as a failure to respond was solved by eliminating doubtful instances as at the end of a feeding period when the time was nearly up. Mother's responses were counted according to each observation unit, rather than the number of activities within a unit.

Slowed sucking was the most frequent activity to elicit maternal responses. The baby's release of the nipple was always followed by the maternal response of reinsertion. Nipple retention was followed by activation in most instances. Based on the frequency of maternal response to the conditions cited above and to others we had a measure of passivity that yielded also a measure of selectivity.

Significant and negative relationships were found with passivity and stimulation talk, also with the passivity and visual items like gazing. This finding can be explained by the fact that mothers concerned with activating a reluctant nursling are more likely to remain alert. They are also more talkative because of frustration, probably also because of a kind of projection since they addressed remarks to the baby as though the baby consciously refused to respond to the mother's urging.

A study of all the items accompanying painful situations, their frequencies and combinations with each other in all the feeding periods, led to the inference that in the absence of direct expression of pain while nursing the baby, evidence of muscular tension as previously described, when combined with visual wandering or gazing or distraction, or particularly passivity, is presumptive of painful sensations.

From an analysis of the data, the mother's conflict that arises at the moment she withdraws the breast because of pain and the conflict after withdrawal when a restoring tendency arises is well envisaged. So also the diminution of her relationship to the baby as pain or other body sensations become more absorbing and she fails to respond to every form of incentive on the part of the baby that previously never failed to capture her attention.

## SECTION VI

The end phase was first studied in combination with the initial phase in order to compare the mother's last and first response to the baby in an observation period. Now the end phase was studied in more detail by separating the period of time when the nurse came for the baby from the time of her departure with him. At the time of her return some mothers were still nursing; others had stopped. Why?

Since it was assumed that a mother was very likely to go on nursing unless deterred by pain, if the baby responded, and unlikely to keep on struggling to the end if her efforts to activate the sucking were attended with frequent failures, we anticipated a marked difference in this respect between A feedings and E feedings. This was indeed the case. Of the thirteen A feedings the baby was still at the breast when the nurse arrived in 9, and of the remaining 4, 2 were painful. Of the 7 E feedings, the baby was still at the breast in 3.

Since the number of successful feedings increased gradually from the first to last day of the postnatal week, the tabulations of frequencies of baby-at-breast in the end phase were not surprising. The baby was still at the breast in one-fourth of the feedings during the first and second days; somewhat oftener during the third and fourth; in about one half during the fifth and sixth; in four fifths during the seventh and eighth days. This consistent trend was impressive in view of the factors in individual cases that tended to offset the trend; as for example, in the case of a mother who failed to remove the nipple from the baby though sucking had stopped, because she was inexperienced and preferred to wait for the nurse than reveal her ignorance to a mother in the adjoining bed.

The fact that a breast-feeding was still in evidence when the nurse returned was not differential for maternal attitude; that is, it was not found to differentiate the more from the less maternal.

When an interval of time elapsed between cessation of breast feeding and the nurse's return some mothers utilized it for social response to the baby. The response included such activities as smiling, talking, vocalizing, holding, etc. A social response during this "end interval" was more likely to occur when the feeding was successful, less likely when the feeding was a failure. The excep-

tions concerned the least maternal (according to interview ratings) who gave no social response after a successful feeding and the most maternal (the 2 highest ranking mothers) who gave social responses after feeding failures.

The explanation for the presence of social response after a successful feeding (A and B) and its absence after the less successful feedings or feeding failures (C, D, and E) was ascribed to the mother's feelings of satisfaction and of dissatisfaction. As noted above, however, the differentiation of social response on the basis of feeding success did not apply to the most and the least maternal cases. This finding illustrates one of a number of situations in the postnatal week in which a positive attitude can be differentiated only when it is present in a very large amount and a negative attitude can be differentiated when a positive one is completely absent.

After studying the intervals of the end phase, the intervals that occurred during the feeding phase (when mothers took time out and then continued with the feeding) were also considered. Special tables were constructed for the study of the sequences of maternal and baby's behavior that preceded the interval, its time of onset after the observation period began, its duration, also other observations that had special pertinence.

Most of the interval phases came in the latter part of the observation period after there was evidence of sucking cessation or after repeated failure to initiate the sucking. The former were relatively of short duration; the latter were long (more than 10 minutes).

The inference could be made from the data assembled in the tables that excepting the early postnatal days, the mothers used all the time available to keep the babies at the breast. When it was difficult to do so because of the baby's lack of response, or the mother's pain or fatigue, persistent efforts continued up to the last 5 to 10 minutes of the period.

Analysis of the sequences preceding the interval allowed various inferences concerning the mother's decision to stop nursing, even the process of arriving at a decision, and the little events that hurried or delayed it. For example, regurgitation facilitated the decision in one case, a painful suck changed a wavering decision into a firm one in a second, and the baby's sucking movement, after apparent completion of sucking changed the decision in a third.

How explain those feedings which contained no interval phases, feedings in which the sucking continued from the beginning to the end of the observation period?

For the answer comparisons were made of the feedings of the same mother with feedings of the same classification, one of which was free of intervals. This kind of study, of the contrasting behavior of the same mother in different kinds of feeding, was especially useful in solving the problem of interval-free observation periods.

The primary factor naturally was the sucking pattern, especially when continuous sucking required little or no stimulation, or when continuous sucking was attended by frequent stimulation to which the baby always responded. Other cases occurred in which whenever an attempt to withdraw the breast was made, it was followed immediately by sucking or mouthing movement or crying. In 1 case the mother, in spite of frequent biting pain, numerous groans, grimacing, restless movements, distracting conversations and breast withdrawals, always quickly returned the breast and continued to the end.

Persistency in nursing up to the end, the apparently accepted point of termination when the nurse returned, was not necessarily proof of special affection for the baby, if we use the test of the interview scores. Persistency of a high degree was revealed by several mothers quite below the average. Persistency as analyzed, was not in itself found to be evidence of maternal attitude, though a few cases, as in the example cited above, could be so considered.

After arrival the nurse took the baby or received him from the mother who lifted the baby to her. Usually there was some conversation between mother and nurse. In only one instance was there a protest and that occurred in the case of a high scoring mother who thought the baby was still ready to go on sucking. In another case when the nurse waited because she thought the baby wanted to go on sucking, a low scoring mother terminated the feeding immediately. With one exception, as noted, the mothers regarded the return of the nurse as an acceptable end point for the feeding.

The nurses' comments and questions were concerned with feeding difficulties, with the baby's completion of sucking and with compliments for the baby and exhortations to the mother. In most instances where conversations occurred, they were initiated by the mother. They consisted of complaints that the baby did not take

enough milk and praise for the baby who "ate so well." All such remarks were actually consistent with the observations.

Only 2 mothers patted the baby at the moment of the baby's departure with the nurse. They ranked first and second in maternal attitude according to interview scores. The only mother who handed the baby to the nurse without looking at nurse or baby, and continued a conversation with her neighbors, was the lowest ranking member of the group of breast feeding mothers. Differentiation of maternal attitude in the end phase was limited to the few instances noted of marked deviations of behavior.

When the nurse left with the baby some mothers kept watching, some who had had painful feeding, groaned, sighed, or closed their eyes, a few said goodbye or made kissing sounds. The larger number made no response. On the whole, it appeared that when the nurse left with the baby his departure was regarded as an accepted hospital routine.

The function of maternal feeling was considered in the light of its effects on the patterns of behavior. In this way it could be seen as an exciter of protective, alerting, giving, social and affectional responses and an inhibitor of forceful, hostile, and passive responses. As a pattern of biological behavior the influence of the feeling-component can be studied in the same way in maternal behavior in different cultures and in animals. In that manner the function of maternal feeling can be reduced to its biologic level, divested of cultural and individual influences.

## SECTION VII

Numerous responses attributed to maternal attitude by those who first judged the records were found on further analysis to be due to factors other than attitude. Actually the behavior of nursing mothers in response to the baby was accounted for largely by the infant's sucking behavior. They include the mother's anticipation of the difficulty in getting the baby to suck, her difficulty in initiating the sucking, overcoming the baby's resistance, adapting the pattern of stimulation to changes in the baby's pattern of sucking, and maintaining the sucking in spite of pain or fatigue.

Since the infant's sucking behavior during the feeding period was the main influence in determining the mother's response, the discernment of maternal attitude within the response must take the infant's behavior into consideration. This behavior was classi-



fied in regard to continuity by means of feeding classifications of sucking and further subdivided according to postnatal day, pain, frustration, etc.

In a search for the kind of behavior that contained maternal attitude we utilized at first the rankings of the mothers concerned on a scale derived from a standard interview. Our surest clinical measures of attitude were of those mothers who ranked highest and lowest on this scale. The test for differentials, therefore, was first applied to their behavior. A similar test was then made of the upper and lower half of the group, and finally of each member of the group.

As a check on the validity of the ranking of the 2 highest and the 2 lowest, all those situations were selected in which a marked deviation of behavior in a positive or negative direction was found.

In every one of a large variety of such situations the mothers who ranked highest or lowest according to their scores on standardized interviews were the sole examples of the most positive or negative response, and consistently so with their position on the scale.

As compared with the others the differences appeared in the pattern of the greeting, persistency in stimulation during unsuccessful feedings, in the patterns of stimulation, in response to the baby's readiness to suck, in passivity, in distraction, and in response during interval and end phase. Comparing only the highest and the lowest ranking mothers in the breast feeding group we may summarize the findings by saying that the former were more tender to the baby, alert to his needs, persistent in satisfying them regardless of the baby's resistance, and more demonstrative in the display of affection.

Now situations were selected not by marked deviations but by any deviations discernible as positive or negative. In these the responses of nursing mothers were classified according to their interview rankings. This step was taken partly to test the interview rankings for later comparisons with rankings based on the observations alone. Errors of ranking were now discernible for the midgroup of 4 of the 15 breast-feeding mothers.

From this point on differentiation of maternal response no longer relied on the aid of interview scores. In each one of the numerous situations (26) the various patterns of response were classified and comparisons of mothers were now made on the basis of their res-

ponses in observed situations as long as two or more mothers were contained in any one of them. The rank order, now determined by comparisons of behavior in each situation, allowed also a measure of the consistency of differences between each mother and the others.

A mother was regarded as completely consistent if in relation to any other she remained above or below her in terms of positive or negative response in every situation in which they were compared. The more maternal mothers, as defined now by such comparisons, were found to be more consistent than the less maternal.

The number of comparisons for each of the 15 breast-feeding mothers averaged 74. For the mothers above the median position the inconsistencies were very few (0 to 2). For those below the median position the range of inconsistencies was still small, though larger (3 to 7) and of these, the smallest number held true for the 2 lowest ranking members of the group. The most plausible reason for the larger number in the lower half of the scale was based on a difference in the manifestation of a negative response (passivity or excessive activity). Suppose, for example, the differential for attitude in a particular kind of situation is evidence of passivity (failure to respond to the baby when certain incentives are present). Now suppose that in this kind of situation there are mothers who never reveal a negative attitude in this way; but on the other hand, in excessive or rough stimulation. Through absence of passivity such mothers are then scored above the others. This artifact occurs only among mothers below the median position.

When we consider the components of maternal attitude that are contained in the differentiations of behavior they may be described by such positive terms as devotion, interest, affection and tenderness.

Devotion is revealed in the various aspects of the task; persistency of stimulation, absence of passivity, duration of the interval phase. Taken by itself it represents that attribute which is closest to basic maternal behavior. Of its manifestations we have learned that persistency of stimulation as such can occur with little evidence of the other manifestations of devotion, or the other components of maternal attitude. In other words a mother may be hard working in the task of nursing with less than average

maternal attitude. In her persistency in attaining the goal she may lose consideration for the baby.

Interest is evidence of relatedness, of manifest awareness of the baby, regardless of distractions or difficulties in feedings. It is more easily measured by lapses, as in conversation with others, reading, gazing into space, and failure to observe the baby's sucking needs.

Affection as the term is used in this study is revealed in overt display of feeling for the baby. The display of affection was found to be more differentiating in regard to certain forms of body contact than vocalizations or kissing sounds. As a component of maternal attitude affection was the most difficult to isolate and differentiate.

Tenderness is measured by the control of annoyance, impatience or anger towards the baby when feelings are frustrating, exhausting or painful. The control is revealed in the type of stimulations employed, the behavior that follows acute pain, and the verbal response that follows the baby's persistent failure to suck. It may be seen also in the use of mild stimulation when strong are more appropriate. It must be differentiated from behavior in which failure to use strong stimulation is due to indifference or anxiety.

Each component though part of a pattern can be studied more or less in isolation. Each mother can be characterized by the prominence or the deficiency of any component. Thus in our group there are mothers who are affectionate, devoted and interested but deficient in tenderness, mothers who are more devoted and interested than affectionate, mothers who are more tender than persistent.

The interdependency of the components can also be gauged. Least dependent on the other components is devotion. Most closely linked together are affection and interest.

The identification of maternal feeling in this investigation has been made by determining its influence on patterns of behavior. Maternal feeling is assumed to be that something, of varying quantity, which explains certain differences found in observations of maternal response to the baby. The explanation does not imply that because a mother has more or less maternal feeling she has chosen to act in a certain way, or the opposite, that because she has chosen to act in a certain way maternal feeling has been reduced or enhanced. The implication of our findings is simply that more such feeling is found in a certain kind of behavior than in another. A further implication is that of a certain stability in

maternal feeling, in a quantitative sense, since its measure under the variety of conditions observed remains consistent, and in keeping with the past history of the individual.

### SECTION VIII

Since the behavior of the most and the least maternal members of our series of cases was used as a preliminary crucial test for the presence of maternal attitude it was important to find out if they were aberrant cases which had no place in a gradient series. They were found not to be so by comparing them with other members of this group, all of whom were well distributed on a scale of values found in studies of large numbers of cases. The fact that the extremes were consistently so according to interview scores and obvious clinical findings was reassuring.

Further, a check on observations drawn from the behavior of the "extremes" was made by comparing all the mothers with respect to their position above or below the median ranking according to interview scores. Actually, even if we assume, as we do, that not all the rankings were accurate, they were sufficient for our purpose as long as we were reasonably sure that the group above the median contained more maternal women than the group below since that served our provisional purpose of facilitating the task of knowing where first to look for behavior that contained a differential for attitude.

When a behavior was not differential for the extremes; that is, when the most and the least maternal mother showed no discriminatory difference in behavior in a particular situation, no instance was found in which this behavior was differential for the others.

When a behavior was differential for the extremes it was found in some cases to be differential for them alone; in others, to be differential for those above and those below the median.

Before using the rankings based on interview scores to determine the measure of an attitude the behavior was analyzed in every possible way to determine its meaning. Hence the actual task in this investigation became largely that of analyzing relational behavior. Study of the infants, for example, revealed not only a variety of sucking patterns but also their forms of resistance to sucking and the particular responses they evoked in the mother. The need of a full analysis of all the components and functions of patterns, as far as our data could take us, was found to be neces-

sary when it was realized that maternal attitude was, however important, one of a number of factors operating in a behavior, and that preoccupation with that factor alone could readily lead to error.

The word patterns was used for any type of response consisting of one or more components. Patterns may vary with the conditions under which they operate (situations) and with the individual. They are differentiated for attitude by their presence or absence in certain situations, and, when present, by a study of their components in terms of variety and sequence, duration in time, frequency and intensity.

Situations (the specific condition or set of conditions under which patterns occur) vary in their capacity to elicit attitudes. Since situations vary also in frequency the number of individuals available for comparison within them varies. In some situations the entire group may be available for comparison; in others, a smaller number. Hence we rely on a large number of situations to make possible frequent comparisons of each member of the group with every one else.

In the measure of maternal attitudes we are limited to a measure of the difference in its manifestation by individuals. We can say that individual A manifests more of the attitude than individual B. We have two ways of determining A's consistency. (1) In every situation in which A and B appear and in which an attitude differential is present we can count the number of situations in which A exceeds B in regard to the attitude. The first way is a measure of the consistency of rankings. (2) A second way is the consistency with which A manifests the attitude in all situations whether or not B is present in all of them. Suppose A shows a positive reaction. Then we can find in all the situations in which his attitude is revealed, his proportion of positives, and if there is a range of positives, the consistency in which A holds his position in the range.

For the extremes, the highest and lowest maternal, we would expect the highest order of consistency. Actually the top ranking mother was consistently positive in every one of the 17 situations in which she was available for comparison. In some of these situations positive responses were found in only 1 or 2 members of the group. Whenever there was a range of positive deviations she was always the highest one. The lowest ranking mother was consistently

negative in 13 of 16 situations. However, in the 3 situations in which she was inconsistent these did not reveal a positive response. The discrepancy in these situations, as explained previously was due to the fact that the attitude differential was that of excessive activity, whereas her form of negative response was that of indifference.

Without correcting this kind of artifact, the consistencies when numbered from the highest to the lowest rank, on the basis now of a comparison in every situation, were highest as one approached the ends of the scale. The largest inconsistencies were found not in the median but rather in the position just below it. The conjecture was made that this finding was due to a larger variety of negative responses, hence a better opportunity for inconsistencies, or to the limitation of the feeding situation in eliciting as large a variety of positive responses.

The problem of scoring consisted in matching numerical values for each pattern of behavior according to the analysis of patterns. Basic maternal behavior was given a score denoting an average. Scores above and below it were determined by positive and negative deviations of behavior which presumably manifested maternal attitude. The number of scores for basic patterns in an observation period were limited by rule.

The technical problems included the determination of an observation unit, a phase, the count of patterns or their components, checks of observations and the importance of ordinary observations (observations devoid of subjective description and motivational inference). Such details have special importance in regard to the integrity of the data of ongoing relational behavior. The particular difficulties involved, as seen in retrospect, were discussed in various sections of the text.

The problem of specificity of maternal feeling remained. It included such questions as the feelings involved in successfully solving the task of feeding, as task alone, without reference to positive or negative feelings for the baby. Maternal feeling as differentiated from other feelings was derived only through manifestation of behavior. As such we could infer such components as devotion, interest, affection and tenderness and we could merely conjecture that a basic element is a feeling of possession, as of something highly treasured. Starting with that feeling the deriva-

tive behaviors could be worked out in a series of comparative studies that deal with possessive attitudes.

The methods employed in this study are applicable in general to observations of relational behavior especially of type relationships of pairs whether human or animal. It has been applied to a similar study of mothers and infants. It has been applied also to a study of schizophrenic mothers and their children, a study which revealed particularly the discipline involved in eliminating bias in clinical observations. The method has relevance to biologic and psychologic investigations in which basic patterns in relational behavior are sought, and the influence of attitudes upon them.

# GENERAL APPENDIX

## SUMMARY OF DATA OF OBSERVATION RECORDS AND SOME RELEVANT MEDICAL INFORMATION

<i>Case No</i>	<i>Date First Obs Period</i>	<i>No of Obs Periods</i>	<i>Number Min per Period</i>	<i>No Days After Birth</i>	<i>No "Obs Units"</i>	<i>Age of Mother</i>	<i>No of Preg- nancies</i>
<i>1943</i>							
7	Mar 10	3	35, 30, 37	2, 3, 7	71	22	2
8	Mar 10	3	30, 25, 30	1, 2, 6	30	23	1
9	Mar 10	3	35, 30, 25	3, 4, 8	33	21	1
10	Mar 12	3	35, 25, 35	1, 5, 7	35	36	3
11	Mar 12	3	5, 30, 30	1, 4, 7	32	29	2
12	Mar 12	3	10, 10, 20	1, 4, 7	24	28	2
13	Mar 16	2	38, 35	3, 4	41	27	1
14	Mar 16	3	20, 30, 25	1, 4, 7	33	30	2
15	Mar 19	2	5, 30	1, 4	17	20 s	2
<i>1944</i>							
16	Jan 7	3	18, 25, 30	1, 2, 6	46	20 s	
17	Jan 10	3	5, 10, 10	0, 1, 5	9	31	2
18	Jan 11	3	25, 33, (10)	2, 4, (8)	34	19	1
19	Jan 12	3	20, 20, 19	2, 4, 6	50	23	
20	Jan 13	3	20, 30, 30	1, 3, 5	51	16	2
21	Jan 17	3	32, 27, 4	1, 4, (8)	49	20	1
22	Jan 20	2	12, 8	2, 6	14	31	4
23	Jan 24	2	17, 21	2, 4	27	30	3
24	Feb 22	2	25, 23	2, 4	42	30	3
25	Feb 22	3	17, 19, 23	2, 4, 6	60	28	3



SUMMARY OF DATA OF OBSERVATION RECORDS AND SOME RELEVANT  
MEDICAL INFORMATION (Continued)

Case No	No of Children	Sex of Baby	Birth	Menarche	Days of Menstrual Flow	Interview Score	Observation Score
7	2	F	LOA	11	4	3 4	3 0
8	1	F	LOA	11	6	4 0	4 0
9	1	M	LOA	13	7	3 1	3 1
10	3	M	vertex	13	5	3 0	2 3
11	2	M	LOA	14	5	2 9	3 0
12	2	F	LOA	13	7	2 4	2 8 <sup>1</sup>
13	1	M	vertex	15	6	3 4	3 9
14	2	F	LOA	12	4	3 1	2 8
15	1	F	ROP	17	3	3 6	3 4
16	1	M	vertex	13	3	2 4	1 2
17	1	F	vertex	15	2	2 1	(?) <sup>2</sup>
18	1	F	ROA	14	6	4 9	4.5
19	1	M	vertex	13	4	2 9	2 3
20	1	F	ROA	13	2	2 5	1 8
21	1	F	breech	14	3	3 0	2 7
22	4	M	vertex	12	3	1 8	1 0
23	3	F	LOA	14	3	4 4	4 1
24	3	F	LOA	14	4	3 4	3 8
25	3	M	LOA	13	6	3 3	3 4

<sup>1</sup> Estimate of scores of two non-feeding and one bottle-feeding period

<sup>2</sup> Score is close to 1 See text

## OBSERVATION RECORDS

## CASE 7, I — March 10

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Nurse brought baby	Mother smiled and put on her mask	
2	Baby, awake, cried	Mother, "Alright, wait a minute "	
3	Baby continued to cry till nipple was put in her mouth	Mother made kissing sounds with mouth	
4	Baby didn't grasp nipple immediately	Mother, "She's a stubborn little thing " Put right hand on breast	
5	Baby grasped nipple and began sucking weakly, resting often	Mother murmured to her, shook breast to start baby sucking, said, "Wake up Hmm? "	
6	Baby blinked	Mother, "She knows my voice She blinked when I talked " Mother looked at her	
7	Baby released nipple	Mother tried to put it back in her mouth	10 min
8	Baby shook head, grunted	Mother held baby's head closer to breast with right hand	
9	Baby took nipple, but released it immediately Grunted	Mother, "C'mon, c'mon I'm afraid to spank you " Shifted her position a little Pushed baby's chin and rolled her head from side to side very quickly Tried to get nipple in baby's mouth	
10	Baby took nipple	Mother, "O K , now suck "	
11	Baby released nipple	Mother said, ' C'mon " several times, voice became louder and more irritated ' Oh, she's getting me nervous now " Jiggled baby's cheek vigorously, said, "C'mon, c'mon "	
12	Baby opened eyes, grunted, refused nipple Free hand waved up and down, then baby held it still beside ear	Mother moved, jiggled baby	
13	Baby wouldn't wake up	Mother moved her body about 6 inches from baby, said, ' Oh, I don't know how to wake her up " Voice sounded disgusted Patted baby hard, and rolled her	
14	Baby grunted	Mother, "I wish you would cry When you get home you'll be yelling your lungs out "	
15	Baby stretched free hand, waved it in air, then rested it by head again	Mother moved close to baby again and brushed her nipple across the baby's lips Inserted nipple in baby's mouth	20 min
16	Baby didn't release nipple but didn't suck	Mother, "This is the first day and she probably isn't used to it Usually they cry and cry "	

## CASE 7, I — MARCH 10 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
17	Baby shook head	Mother, "Now she's looking for it "	
18	Baby sucked weakly	Mother, "You bad girl C'mon for God sakes " Mother pushed baby's free hand under blanket	
19	Baby sucked once or twice, then stopped Sucking slow and weak	Mother turned to member of hospital staff who had come to make out birth certificate for another baby She paid no attention to her baby	
20	Baby began sucking a little stronger	Mother, "See how she's sucking now "	
21	Baby stopped sucking, went to sleep	Mother, "Oh, are we going to start this all over again "	30 min
22	Nurse came for baby	Mother, "She sucked pretty well, but she went to sleep for about 5 minutes "	32 min

## CASE 7, II — MARCH 11

23	Baby awake and whimpering when nurse brought her	Mother lying on right side, left hand on breast Took baby	
24	Free hand waved back and forth very fast, mouth hunted for breast	Mother gave her breast	
25	Baby started sucking very fast, moderately strong Free hand waved now and then, but was mostly held rigid and still away from body	Mother looked at breast, said, "Ow! You hurt, you bad girl "	
26	Baby's eyes were open	Mother, "Now what are you thinking about? "	
27	Baby stopped sucking a second	Mother, "Every time I talk she stops You'd think she understood "	
28	Baby stopped sucking	Mother juggled breast to make her start	7 min
29	Baby sucked again, weaker and slower Waved free hand	Mother took baby's free hand in her left one	
30	Through sleeve baby closed fingers on mother's thumb	Mother laughed	
31	Baby sucked, rested, sucked	No response	

## CASE 7, II — MARCH 11 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
32	Baby closed eyes	Mother, "Oh you're going to sleep now " Played with baby's free hand, released hand	
33	Baby moved free hand to original position, then waved it slightly and slowly		
34	Sucking became slower, rests longer	Mother played with free hand again, said, "I want to keep her awake "	
35	Baby stopped sucking	Mother, "Come on Take more You won't drink all my milk " Jiggled breast	
36	Baby closed eyes, seemed asleep, but did not release nipple	Mother pinched her cheek, jiggled it to wake her	20 min
37	Baby gave a couple of weak sucks, stopped	Mother pinched cheek again, kept coax- ing her, said, "She's doing better than this morning "	
38	Baby sucked weakly when coaxed Left foot kicked when cheek was pinched	Mother alternated cheek patting and moving of baby's free arm to wake her	
39	Baby kicked both feet Stopped sucking but re- tained nipple	Mother, "She won't let go (referred to nipple) so she might as well suck "	
40	Baby moved free arm	Mother squeezed free arm, said, "I want her to keep on, because once she empties the breast it don't hurt any more When its full it does " Coaxed baby every few seconds	25 min
41	Baby's sucking became very weak	Mother, "Aw now you're getting tired " Took breast out of baby's mouth.	
42	Baby didn't move	Mother moved herself back, away from baby, said, "Now you're too full, you fat pig " Laughed, put thumb on baby's mouth, turned her more to the side	
43	Baby waved both hands, then held them still	Mother, "Hello Now grab my finger."	
44	Baby sneezed	Mother, "Ugh," Made kissing sounds.	
45	Nurse came and took baby	Mother told nurse how well baby had eaten	33 min

## CASE 7, III — MARCH 15

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
46	Nurse brought baby who was wide awake and crying	Mother, "I'm glad she's crying She's usually asleep"	
47	Baby put beside mother	Mother, "First she's got to look at me a little," Gave baby right breast	
48	Baby began sucking, strong and slow		
49	Baby sucking	Mother removed breast, said, "It comes too fast and she gets tired"	2 min
50	Baby made sucking motions with mouth, didn't cry	Mother gave her breast again	
51	Baby resumed sucking		
52	Baby sucking	Mother took her from breast to bubble her	4 min
53	Baby cried, hunted for breast	Mother put her back to breast without bubbling her	
54	Baby made gulping sounds while she sucked	Mother, "Don't be snarling"	
55	Baby closed eyes	Mother took her from breast, laid her against her body, said, "Wake up baby" Patted her back	
56	Baby kept eyes closed, grunted	Mother put her back to breast	
57	Baby sucked, hands held still by sides		
58	Baby stoppped sucking	Mother, "Come on" Patted baby's back	15 min
59	Baby didn't suck	Mother, "You're so hungry and then you fall asleep God help us Now wake up" Jiggled breast	
60	Baby sucked 5-6 times, stopped, but didn't release nipple	Mother took her from breast, patted her "Already you like this" Come on and belch, belch nicely now" Continued to pat her	
61	Baby wiggled	Mother, "Hey watcha doing Making yourself more comfortable?" Put baby back to breast	
62	Baby sucked for 2 minutes	Mother talked to observer	
63	Baby coughed	Mother continued to talk to me about weather, baby's name and general things Did not look at baby Took baby from breast, held her against body, said, "Go take a snooze" Put baby back to breast in a few seconds	

## CASE 7, III — MARCH 15 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
64	Baby didn't suck Falling asleep	Mother took her from breast, held her on lap, jiggled and bounced her, said, "Go on, wake up" Put baby back to breast	
65	Baby didn't suck	Mother took baby from breast, patted her on lap, waved baby's free arm up and down	
66	Baby opened eyes	Mother "That's the way I like to see you" Put baby's hand on its face, said, "Boo Gee your eyes are little Ugly thing Ugly little chunk" (Voice was teasing) Laughed, rocked baby, cooed, waved hand in front of baby's eyes, "Look Go on, eat - eat You don't want no more? What are you going to do then? You're going to cry in between, you bad thing"	30 min
67	Baby's eyes still open	Mother continued to hold her in lap, rocking and cooing, said, "Nice little cheeks I like to pinch them" Pinched baby's cheeks	
68	Baby opened mouth	Mother, "Oh you want more now" Put baby back to breast	
69	Baby started sucking	Mother, "You stupid You always do that when its time to go And I don't want you to cry in between"	
70	Baby continued to suck, but closed eyes		
71	Nurse came and took baby who was sucking very slowly	Mother, "Bye bye We're going home tomorrow"	37 min

## CASE 8, I — MARCH 10

1	Nurse brought baby Baby screwed up face	Mother laughed	
2	Baby awake	Mother tried to insert nipple in baby's mouth Had trouble getting it in, but finally did, nurse helping	
3	Baby began sucking, slow and strong	Mother said it hurt her Tense Kept her body raised and rigid	
4	Baby lost nipple and cried	Nurse made mother lie down and told her to relax Mother looked at baby and then at nurse Put left arm around baby	

## CASE 8, I — MARCH 10 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
5	Baby got nipple again, sucked, eyes open		
6	Baby lost nipple, shook head from side to side Hunted for nipple	Mother, "She's looking for it" Put nipple in baby's mouth	
7	Baby lost nipple again, cried Waved free hand till nurse held it down	Mother asked nurse why baby was so covered up Said she wanted to see her Nurse helped mother reinsert nipple in baby's mouth, left	
8	Baby sucked	Mother patted baby's head ear and cheek Watched me, then looked at the baby	
9	Baby stopped sucking, but retained nipple, eyes open	Mother patted baby's cheek	
10	Baby sucked again Didn't sleep but had to be reminded to suck from time to time	Mother looked at her, patted cheek to urge her to suck	
11	Baby closed and opened eyes	Mother tucked a hand under her chin	
12	Baby's sucking became weaker, eyes closed Continued to suck at intervals	Mother lay quietly and looked at her throughout nursing	
13	Baby still sucking when nurse took her Didn't cry when taken from breast		30 min

## CASE 8, II — MARCH 11

14	Baby was just waking up when nurse brought her, whimpered	Mother very excited to see baby Laughed, squealed Nurse helped her to start
15	Baby wouldn't take nipple	Nurse held baby's head
16	Baby took nipple, sucked fast and strong Rested every 20-25 sucks	Mother put right arm around baby's back lightly, left hand on breast Kept moving right hand to touch baby's face and urge her on by patting back and cheek
17	Baby moved free hand up and down, though movement was hindered by mother's body Free hand waved throughout nursing	Mother coaxed her constantly, even when baby was sucking she would pat her face and say, "Come on" Said she was scared that the baby wasn't getting enough to eat

## CASE 8, II — MARCH 11 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
18	Baby closed eyes, sucking became slower, rests longer	Mother patted back and cheek to urge her on	6 min
19	Baby became very sleepy Had to be coaxed a great deal to resume sucking, but always did	Mother patted cheek to wake baby whenever she stopped sucking. Mother looked at baby, smiled, didn't talk to her, cuddled her	15 min
20	Nurse took baby away from breast. Baby went to sleep		25 min

## CASE 8, III — MARCH 15

21	(Initial phase not observed ) Baby at breast, sucking strong and quite fast, eyes open. Rested every 20-30 sucks, but needed no coaxing to start again	Mother had left arm around baby	
22	Baby sucking	Mother groaned, said, "Oh she's biting again." Took breast out of baby's mouth	5 min
23	Baby lay quietly, eyes open. Didn't cry, mouth searched for nipple	Mother patted her	
24	Baby whimpered	Mother gave breast back to baby	
25	Baby took nipple, sucked strongly, eyes still open	Mother, "It hurts, but I don't like to hear her cry."	
26	Baby stopped sucking	Mother removed breast, covered it with nightgown	10 min
27	Baby lay completely still, eyes open, didn't cry. Sneezed	Mother, "Why is it that every time I nurse her she sneezes. It never fails. I guess she's had enough. She isn't crying. If I feed her too much she spits up." Uncovered breast and tried to give it to baby	
28	Baby spit up	Mother, "See that. That aggravated me. I give her and give her, and all she does is to spit it up." Let baby lie beside her. Patted and cuddled her, made kissing sounds with mouth	
29	Baby lay still, eyes open. Didn't cry. Remained thus till nurse took her	Mother, "Well, goodbye. I hope you like your bottle better and don't spit it up."	20 min



## CASE 9, I — MARCH 10

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, awake and crying		
2	Free hand waved vigorously	Mother let nurse handle baby and insert nipple	
3	Baby shook head, refused nipple, cried	Mother smiled, but had worried expression on her face Continued to let nurse help her	
4	Baby took nipple, began sucking fairly strong	Mother looked at him, smiled, whispered to him, said, "Did you see your Daddy today?"	
5	Baby stopped sucking	Mother patted his chin	
6	Baby sucked again	Mother, "You hurt, but I like it" Smiled, laughed	
7	Baby closed eyes	Mother, "Don't go to sleep"	
8	Baby stopped sucking	Mother, "Are you resting?" Jiggled baby's chin	
9	Baby sucked, rests became longer	Mother looked at him, smiled, said, "C'mon, c'mon pudding" Made "Tck-tck" sounds	12 min
10	Baby sucked a short time, then stopped, but retained nipple Seemed asleep	Mother stretched, coaxed baby to start (jiggling chin)	16 min
11	Baby sucked 5-6 times Stopped sucking	Mother kept jiggling his chin Said, "C'mon" softly	
12	Baby sucked 1-2 when urged	Mother, "Have you had enough?" Kept coaxing him (jiggling chin) when he stopped sucking Said, "He sure takes a long time" Looked at baby, then around room	25 min
13	Baby stopped sucking but retained nipple	Mother said she was cramped, but didn't know how to remove nipple, so she didn't move	30 min
14	Nurse took baby	Mother sighed and stretched	35 min

## CASE 9, II — MARCH 11

15	Baby asleep when brought Nurse woke him up	Mother gave breast to baby	
16	Baby began sucking immediately	Mother smiled	
17	Baby sucked hard with very short rests	During rests mother jiggled breast	
18	Baby stopped sucking, closed eyes	Mother asked another patient how to remove nipple from baby's mouth Reply was to open his mouth Mother, "Won't it hurt him? I'm afraid to" Left nipple in baby's mouth	15 min

## CASE 9, II — MARCH 11 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
19	Baby began sucking again	Mother, "I try to take it out and then he grabs for it again" Finally got nipple out of baby's mouth	20 min
20	Baby didn't open eyes, move or cry Eyes remained closed	Mother arranged her pillows, turned baby more to the side Felt hand through the baby's sleeve, said, "Now I can look at you" Mother looked disgustedly at milk that had leaked on bed Patted baby, cooed to him	
21	Baby slept till nurse took him	Mother removed mask, turned on back, watched nurse wheel baby out of room	30 min

## CASE 9, III — MARCH 15

22	Nurse brought baby who was asleep	Mother turned to side No response when baby was put beside her Patted baby's back to wake him up	
23	Baby continued to sleep	Mother patted back but couldn't awaken him Nurse did	
24	Baby blinked	Mother tried to put nipple in mouth	
25	Baby shook head, put both hands on mouth, refused to take nipple	Mother shifted around, called to another patient to come and help her hold down baby's hands. Tried again to insert nipple in his mouth	
26	Baby shook head, refused to take nipple	Mother, "What'll I do when I get you home? You're going on a bottle sure as anything Baby, you're getting nastier and nastier" She and other patient continued to try and insert nipple	
27	Baby waved arms, shook head Refused nipple	Mother became very tense Rolled and patted baby very fast	15 min
28	Baby refused nipple still	Other patient left Mother lay still a moment, then tried to insert nipple	
29	Baby took nipple, sucked weakly Rested every 4-5 sucks	Mother shook breast, said, "Come on What are you doing, stopping for air?"	
30	Baby closed eyes, stopped sucking	Mother, "Come on Don't fall asleep" Jiggled breast	20 min
31	Baby sucked a few times	Mother talked to other patient, said, "He's taking it, but he stops now and then for a rest I don't know what I'm going to do when I get home"	
32	Baby sucked at intervals	Mother talked to other patients about going home that day	
33	Nurse came for baby	Mother sighed, "Well that's over with"	25 min.

## CASE 10, I — MARCH 12

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby was asleep when nurse brought him	No response Mother lying on left side, right hand on breast	
2	Nurse woke him, put him to mother's breast	Mother made no motion at all	
3	Baby waved free hand up and down	Nurse held hand down	
4	Baby released nipple	Mother, "He doesn't want to nurse" Nurse made baby take nipple	
5	Baby held nipple in mouth but didn't suck	Nurse left No action by mother	
6	Baby released nipple Eyes were open, head moved around	Mother tried to push nipple in baby's mouth	
7	Baby refused to take nipple	Mother groaned, put hand down by pelvis (I left and called nurse) Nurse returned and put nipple in baby's mouth	
8	Baby began to suck	Mother took no notice of baby Groaning continued Mother kept right hand breast	10 min 15 min
9	Baby sucked, then stopped but retained nipple	No response	
10	Baby sucked and stopped at intervals	Mother looked at him, then me, then around room Grunted	
11	Baby moved free hand up and down	Mother groaned louder, grimaced	25 min
12	Baby continued to suck at intervals Moved free hand, then held it still	No action or response	
13	Baby released nipple Turned head, closed eyes	No response	30 min
14	Baby raised elbow, Stretched	Mother removed mask, covered breast	
15	Nurse came, took baby	Mother groaned, closed eyes	

## CASE 10, II — MARCH 16

16	Nurse brought baby	Mother lay on left side, hand on breast No response	
17	Baby put by mother	Mother gave breast to baby	
18	Baby took nipple but didn't suck Eyes were closed	Mother looked at him No action Looked around room	
19	Baby squealed	No action	

## CASE 10, II — MARCH 16 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
20	Baby sucked, without mother's aid, about 10 times	Mother closed eyes	5 min
21	Baby started to breathe in short jerky gasps Body vibrated	Mother opened eyes, but didn't look at baby	15 min
22	Baby stopped sucking, breathing became normal Lay at breast, nipple in mouth not sucking	No action or response	
23	Nurse came and took baby Baby asleep, didn't cry	Mother removed mask, shifted position No response as nurse left	25 min

## CASE 10, III — MARCH 18

24	Baby brought	Mother took him from nurse Made unintelligible sounds Put baby to breast More sounds	
25	Baby began sucking immediately Sucking slow and strong Eyes were closed	Mother looked at baby, then me, then around room Right hand on breast	
26	Baby rested every 15-20 sucks	Mother did nothing to urge him on	
27	Baby sucked again		
28	Baby released nipple	Mother took breast and rubbed nipple across baby's mouth	7 min
29	Baby grunted, half-opened eyes, closed them Pressed lips tightly together Refused nipple	Mother tried to insert nipple in baby's mouth	
30	Baby moved head away from nipple Moved hand up by face	Mother tried several times to get baby to suck Patted him, jiggled breast, said, "Come on" twice gently	
31	Baby still refused nipple Kept lips pressed together	Mother stopped trying to get him to suck, held him in both arms, rocked him, patted him Took off mask Held baby quite close, then laid him on her lap	9 min
32	Baby slept Squeaked Both hands up by chin	Mother smiled, folded his sleeve away from face, looked at him	
33	Baby half-opened eyes	Mother smiled broadly, rocked gently	15 min
34	Baby moved both hands by stomach, opened and shut eyes, slept again	Mother looked at him, stared into space Patted him now and then	17 min
35	Nurse returned, baby still sleeping	Mother got up, gave baby to nurse, went back to chair No response	35 min

## CASE 11, I — MARCH 12

<i>Obs, Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Nurse brought baby but did not put it beside mother Left baby in crib by mother's bed Baby asleep	Mother smiled Was lying prone and couldn't see baby Lifted herself with difficulty and looked in crib	
2	Baby still slept	Mother smiled, cooed, spoke softly to it Said it looked just like her other child, but this one cried like a boy Voice sounded proud Mother was tired and lay flat again	
3	Baby slept	Mother looked in direction of crib and smiled happily.	
35	Nurse came and took baby	Mother made kissing sounds with mouth	5 min

## CASE 11, II — MARCH 15

4	Baby brought awake and crying	Mother cooed, turned to left side	
5	Baby put by mother.	Mother gave him left breast	
6	Baby grasped it immediately and began sucking, slow and strong	Mother cooed, told baby to look at her, giggled, cooed, said "You're so cute"	
7	Baby released nipple	Mother laughed, put it back in his mouth	
8	Baby took it and sucked again Rested every 10-12 sucks	Mother jiggled breast sometimes to urge him to suck Watched baby, made kissing sounds with mouth, cooed	
9	Baby rested a long time	Mother, "Now don't stop You know you can eat more" Mother had right hand on breast	8 min
10	Baby sucked again Closed eyes Sucking periods grew shorter, rests longer	No response	
11	Baby released nipple.	Mother put nipple back in his mouth Coaxed baby hard to start him sucking	15 min
12	Baby sucked about 10 times when coaxed	Mother jiggled breast and patted cheek urge him	
13	Baby released nipple	Mother brushed nipple across his mouth.	20 min
14	Baby smacked lips but didn't take nipple	Mother tried to insert nipple again	
15	Baby refused nipple	Mother, "I guess you've had enough" Covered breast	
16	Baby smiled in sleep.	Mother, "Hey cookie What are you laughing at? What's so funny?"	
17	Baby grunted	Mother, "Yes indeed" Moved back a bit Looked at baby, smiled, cooed.	
18	Nurse took baby	Mother, "He was so good and ate a lot Bye, bye, cookie"	30 min

## CASE 11, III — MARCH 18

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
19	Nurse brought baby	Mother smiled, said, "Hello"	
20	Baby half awake, not crying	Mother gave him her breast	
21	Baby took breast immediately and began sucking, strong and fast	Mother lay on her left side, right hand on breast. Mother looked at him, then around room. Said nothing	
22	Baby closed eyes. Rested every 30-40 sucks	When baby rested, mother jiggled to make him start again	7 min
23	Baby's rests were longer	Mother jiggled breast to urge him on	12 min
24	Baby reluctant to resume sucking but did when urged. Eyes still closed	Mother waved own hand around as though it were tired, put it under her head again. Jiggled breast	
25	Baby's sucking became slower and weaker	Mother looked at ceiling, closed eyes. Seemed tense and nervous, fussing with her hair, breathing irregular, restless	
26	Baby sucking	Mother tried to remove breast. Nipple halfway out	15 min
27	Baby waved free hand, cried	Mother, "Sh sh" Returned breast to baby's mouth	
28	Baby sucked	Mother didn't hold breast and it slipped out of baby's mouth	
29	Baby cried	Mother returned breast to baby	
30	Baby sucked. Long rests	Mother lay with eyes closed, right hand on breast. No response to baby	
31	Nurse returned. Baby still sucking. Nurse asked mother if he were through	Mother, "I don't know"	30 min
32	Nurse took baby. Baby whimpered	Mother said nothing, turned away from baby, closed eyes	

## CASE 12, I — MARCH 12

1	Nurse brought baby put it beside mother. Baby asleep	Mother smiled, looked at it. Made kissing sounds with mouth, said to other patient, "I'm afraid of it." Patted baby gently, made faces at it, touched face lightly with forefinger	
2	Baby stretched feet	Mother looked delighted, smiled. Said, "She looked so red when I saw her yesterday, but she's beautiful now." Continued to talk to other patient	
3	Nurse returned and took baby who was still sleeping	Mother smiled, made kissing sounds with mouth, very softly	10 min

## CASE 12, II — MARCH 15

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
4	Nurse brought baby Baby half awake	Mother smiled, put left hand around baby, cuddled it, cooed to her, laughed	
5	Baby sneezed 3 times	Mother said, "Oh" each time baby sneezed Felt through sleeves of gown, said, "Where's your hand?" Looked at her, said, "Are you hungry?" Patted baby	
6	Baby started to cry	Mother, "Oh no Don't cry" Patted baby, rocked it, said "Sh sh Aw, are you hungry?"	
7	Baby continued to cry	Mother looked worried, said "sh" several times	
8	Baby still cried	Mother patted her faster, no harder Rocked and cuddled her, said, "I wonder what the matter is?"	
9	Baby stopped crying	Mother rocked her and said, "Sh "	4 min
10	Baby cried again	Mother fondled her head, patted, rocked her Became tense and worried Said "Sh-sh "	
11	Baby stopped crying	Mother, "I can't stand to her her cry if she's hungry "	7 min
12	Baby cried, waved hands	Mother patted and rocked her	
13	Baby stopped crying	Mother cuddled her closer, still looked worried, said nothing	8 min
14	Baby slept	Mother relaxed a little Held baby Looked at her	
15	Nurse came and took baby who still slept	Mother asked nurse when they were to feed baby Looked relieved when nurse said, "Right away "	10 min

## CASE 12, III — MARCH 18

16	Baby brought Eyes were closed	Mother was half asleep Turned over when baby came Said nothing	
17	Baby opened eyes Didn't cry	Mother began to give baby her bottle	
18	Baby took bottle, closed eyes Sucked, slow and weak	Mother looked at her, said nothing	
19	Baby stopped sucking, rested	Mother did nothing to urge her on	2 min
20	Baby sucked again	Mother continued to look at her	
21	Baby rested at intervals	No response	
22	Baby finished bottle	Mother took bottle out of baby's mouth	7 min
23	Baby seemed asleep	Mother looked at baby, then around room	
24	Nurse came and took baby	Mother gave nurse the bottle, closed eyes, said nothing	20 min

## CASE 13, I — MARCH 16

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Nurse brought baby Baby was awake and quiet	Mother, "Oh, can I nurse the baby? I have a little cold I had it when I came in (admitted to hospital) but I don't think it will hurt "	
2	Nurse said she'd have to wait if she had a cold Nurse took baby and left	Mother said, "Thank you "	

## CASE 13, II — MARCH 18

3	Nurse brought baby who was awake, and not crying	Mother smiled	
4	Nurse tried to make baby take nipple	Mother lay still Nurse tried to make baby suck	
5	Baby grasped nipple, then released it immediately without trying to suck	Nurse restored nipple	
6	Baby sucked 3 4 times when nipple was inserted in mouth	Mother waved hand in air Nurse continued insertion of nipple	8 min
7	Baby released nipple	Nurse left Told mother to do what she could	10 min
8	Baby lay awake	Mother tried to shove nipple in baby's mouth	
9	Mother raised free hand between breast and mouth	Mother laughed nervously, kept trying to shove nipple in baby's mouth	
10	Baby grasped nipple once or twice Sucked about 10 times	Mother grunted laughed nervously, shifted feet Didn't touch baby but shoved nipple at him, making no attempt to pull baby towards her	
11	Baby stopped sucking Nurse returned asked how things were going	Mother, "Well he sucks sometimes, but not much "	15 min
12	Nurse left	Mother, ' Does he have teeth? I'm sure he does He bites "	
13	Baby stopped sucking	Mother stopped trying to insert nipple in baby's mouth Mother tense Kept her body rigid shifted feet Moved back from baby, looked at him, but didn't touch him	
14	Baby yawned	Mother, "You sleepy?	20 min
15	Baby lay awake	Mother moved closer to him, shoved nipple at his mouth	
16	Baby took nipple sucked a little weak and fast	Mother lay and looked at him.	
17	Baby sucked at intervals	Mother removed breast	23 min



## CASE 13, II — MARCH 18 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
18	Baby hunted for nipple, waved free hand wildly, didn't cry	Mother did nothing Then gave breast back to baby	
19	Baby took breast, sucked	Mother, "Ow." Removed breast again	
20	Baby whimpered, waved free hand in air, beat locked hand on bed Didn't cry	Mother didn't return breast to baby's mouth Said, "Aw I'm sorry I have no milk" Laughed, patted baby with forefinger	
21	Nurse returned, took baby	No response	28 min

## CASE 13, III — MARCH 19

22	Nurse brought baby	Mother smiled	
23	Baby put beside mother, baby awake	Mother, "Come over here, funny face Come over here There you are" Gave baby breast	
24	Baby started sucking immediately, strong and fast	Mother, "Oh he's biting Oh he hurts" Took nipple out of baby's mouth	
25	Baby waved free hand wildly Didn't cry	Mother gave him breast again Continued to complain about baby's biting when he nursed Said, "Such sharp gums I can't stand it Oh I forgot my mask" Took nipple out of baby's mouth to look for mask	
26	Baby cried	Mother, "Oh no, don't do that I must find it Be a good boy" Found mask and gave baby breast again	
27	Baby started sucking	Mother, "Boy is he hungry!" Complained of his biting Put left hand on breast Mother laughed at baby, said, "He must have teeth I can't stand it" Looked at him, said she wished she had more milk	
28	Baby rested every 30-40 sucks	When baby rested mother said, "Come on, honey" She seemed very tense was nervous and forced	
29	Baby closed eyes Sucking became weaker	Mother jiggled breast, said, "Come on"	10 min
30	Baby sucked but rests were more frequent and longer	Mother touched baby's face lightly, then pulled her hand away quickly	15 min
31	Baby stopped sucking	Mother, "Come on You mustn't sleep" Jiggled breast	
32	Baby sucked		
33	Baby sucking	Mother, "He's putting me to sleep" Closed eyes	20 min

## CASE 13, III — MARCH 19 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
34	Baby released nipple	Mother, "I guess he fell asleep" Stroked baby's cheek with forefinger	25 min
35	Baby didn't move	Mother rubbed nipple across baby's mouth	
36	Baby didn't take nipple	Mother squeezed breast to see if she had any milk left Milk appeared and she tried to insert nipple in baby's mouth	
37	Baby took nipple but didn't suck	Mother removed nipple, moved back from baby, stroked him, said, "Its a shame to waste all this good milk"	35 min
38	Baby made sucking movements with mouth	Mother quickly inserted nipple in his mouth	
39	Baby sucked, eyes closed		
40	Nurse returned	Mother told nurse how well everything had gone	
41	Nurse took baby who seemed asleep	No response	

## CASE 14, I — MARCH 16

1	Nurse brought baby	Mother, "Well I hope she does better this time She went to sleep the whole time"	10 min
2	Baby put by mother	Mother, "Move her closer"	
3	Baby awake and crying	Mother, "She's better than this morning" Nurse helped mother give baby nipple, and left	
4	Baby took nipple at once and sucked strong and slow	Mother, "Oh there she goes again Oh stop"	
5	Baby stopped sucking a second	Mother, "Now don't go to sleep Go ahead 'That's a girl' Spoke loudly Looked around room Talked with other patients	
6	Baby sucked and rested at intervals Sucked when mother jiggled breast	Mother jiggled breast when baby rested Said, "Go ahead" Groaned, "Oh my stomach"	
7	Baby sucking	Mother, "Well she's still taking it, but I guess its enough" (Nurse had told her to nurse the baby 10 minutes)	
8	Baby sucked as mother moved breast	Mother, "Ow, ow"	
9	Baby lay quietly, closed eyes, didn't cry	Mother, "Well how are you?" Stroked baby's hair Covered breast, moved back from baby, groaned	

## CASE 14, I — MARCH 16 (Continueud)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
10	Baby opened and closed eyes	Mother looked at her now and then Looked around room, groaned about her stomach	18 min
11	Baby made sucking movements with mouth	No response	
12	Nurse returned and took baby who seemed asleep	Mother groaned	20 min

## CASE 14, II — MARCH 19

13	Nurse brought baby who was awake and crying	Mother gave baby breast	
14	Baby took nipple, sucked, strong and slow	Mother asked nurse if she should still nurse the baby 10 minutes Nurse told her to rest after first 10 minutes, then continue 10 minutes	
15	Baby sucked, rested about every 30 sucks	Mother said nothing, looked at baby, then around room Left hand on breast Did nothing to urge baby to suck when it rested	
16	Baby's rests became longer Eyes still open	Mother released hold on breast now and then to watch the time	12 min
17	Baby stopped sucking when mother released breast	No response	
18	Baby closed eyes, stopped sucking	Inserted nipple, then mother looked at clock, jiggled breast	17 min
19	Baby sucked, eyes closed	Mother removed breast from baby's mouth	20 min
20	Baby didn't cry Seemed asleep	Mother moved herself back from baby, looked at baby, laughed, looked around room	
21	Nurse returned and took baby who still slept	Mother said baby had nursed for 20 minutes	30 min

## CASE 14, III — MARCH 22

22	Nurse brought baby who was awake and crying	Nurse told mother to nurse 10 minutes and then burp the baby Mother said OK Gave breast to baby Lay on right side Laid left hand on breast	
23	Baby sucked, strong and slow	Another patient, "Isn't she cute" Mother, "Yeah, and she spits up" Looked around room, listened to other patients' conversation	
24	Baby closed eyes Still sucked	Mother, "Now she's sleeping already Come on darling, the nurse said you were hungry"	7 min

## CASE 14, III — MARCH 22 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
25	Baby sucking	Mother removed breast. Lifted baby up to bubble her	10 min
26	Baby opened eyes, whimpered	Mother patted her twice, and put her to breast again (Baby didn't burp)	
27	Baby sucked, eyes closed. Rested often	Mother juggled breast when baby rested	
28	Baby needed a lot of coaxing. Rested a long time	Mother juggled breast	15 min
29	Baby sucked when coaxed	Mother juggled breast	
30	Baby stopped sucking, but retained nipple in mouth 3 minutes	No response	20 min
31	Baby resting, not sucking	Mother juggled baby	23 min
32	Baby sucked weakly. Long rests	Mother looked around room. Said nothing but laughed with other patients	
33	Nurse returned and took baby	No response	25 min

## CASE 15, I — MARCH 19

1	Nurse brought baby	Mother, "Oh she's a redheaded one"	
2	Baby put beside mother. Baby awake	Mother, "Oh you cutums. How are you?" Patted baby with left hand, gently but firmly	
3	Baby yawned	Mother, "Well what's the trouble? Boy you sure caused me a lot of trouble"	
4	Baby cried	Mother, "Aw, aw. Now don't be bad and cry." Patted her with hand, made kissing sounds with mouth	
5	Nurse returned and took baby	Mother, "Goodbye honey." Patted her, made kissing sounds with mouth	5 min

## CASE 15, II — MARCH 22

6	Nurse brought baby	Mother, "That's not my baby" (Nurse had brought wrong baby. Went and got right one)	
7	Baby put by mother, was asleep	Mother gave baby breast	
8	Baby took nipple but didn't suck. Eyes closed	Mother, "Isn't she cute. She looks like a monkey. Coochie, coochie." Made kissing sounds, poked baby's cheek (finger covered with sheet), said, "Come on, honey."	
9	Baby released nipple	Mother put nipple in baby's mouth	
10	Baby released nipple	Mother put nipple in baby's mouth	

## CASE 15, II — MARCH 22 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
11	Baby sucked 5-6 times Stopped	Mother poked baby's cheek harder	
12	Baby sucked a little about every 30 seconds	Mother, "Come on Don't be bad You old sleepyhead "	3 min
13	Baby sucked more steadily Sucking slow and weak	Mother patted baby, Then poked cheek, said, "Come on, son "	
14	Baby sucked only when mother coaxed her	Mother continued to poke baby Said, "Sleepyhead, come on Puss-puss Cootchie, cootchie " Talked to me	
15	Baby sucked when strongly coaxed Eyes still closed	Mother continued to poke baby's cheek, sometimes quite violently Said, "sleepy- head" when she poked him	15 min
16	Baby held nipple Sucked rarely	Mother continued to poke her cheek and say, "Wakeup "	27 min
17	Nurse returned, took baby	Mother, "Goodbye, sleepyhead Puss, puss " Made loud kissing sounds with mouth	30 min

## CASE 16, I — JANUARY 7

1	Baby brought by nurse Identified	Mother lying on her back, smiling Took down straps of nightgown when nurse told her to	
2	Baby rediapered, awake and quiet	Mother smiling said, "What color are his eyes? Brown or blue?" Mother turned on side, grimaced	
3	Baby whimpered	Mother laughed "We're both having trouble "	
4	Nurse held baby and told mother how to manipu- late breast	Mother concentrated on nurse's direc- tions—looked at breast	
5	Baby took nipple — didn't suck	Mother concentrated on nurse's direc- tions—looked at breast	
6	Baby not sucking, hold- ing nipple	Mother manipulated breast as nurse encouraged and directed her	7 min
7	Baby whimpered	Mother watched baby and nurse's handling of him—smiled at baby	
8	Baby refused nipple, wouldn't suck	Mother giggled with nurse, watched nurse Mother moved her feet under covers almost constantly	
9	Baby went to sleep	Mother, "He just doesn't like it today Come on baby—you're very bad—come on now "	11 min
10	Baby asleep—nurse left	Mother put arm around baby gingerly —said, "You're a nasty thing, that's what you are " Smiled at baby	

## CASE 16, I — JANUARY 7 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
11	Baby asleep	Mother pulled baby closer to her, tried to insert nipple	
12	Baby wouldn't take nipple	Mother, "Come on, come on Snooky "	
13	Baby asleep — no response	Mother, "Come on—you'll have to do better " Clk Clk (Nurse returned )	
14	Nurse woke baby—baby cried	Mother murmured to baby (couldn't hear)	
15	Baby closed eyes	Mother, "I guess it's as far as he'll go now "	
16	Baby waved free hand wildly when nurse patted feet—baby cried	Mother, "Come on, come on You're so serious "	13 min
17	Baby continued to cry	Mother and nurse tried to get baby to take nipple and suck	
18	Baby took nipple—not sucking	Mother juggled breast, said "Come on "	
19	Nurse put baby to breast Baby started sucking	Mother smiled, giggled	15 min
20	Baby lost nipple	Mother, "No you don't " (Nurse reinserted nipple—mother watched ) Nurse gave mother instructions and left	
21	Baby whimpered, took nipple, sucked 3-4 times, rested, then weak sucks	Mother obeyed nurse's instructions on holding breast, etc	
22	Baby held nipple, didn't suck	Mother, "He's holding it " Shook head —looked at baby	
23	Baby bent free hand, held it up by chin	Mother looked at baby, who fell asleep	
24	Baby asleep—nurse came and took him	Nurse returned Mother watched nurse take baby away	18 min

## CASE 16 II — JANUARY 8

25	Baby brought asleep	Mother, "OK Butchy—now if you don't take now I don't know what Look at Momma, Butchy " Made face at baby	
26	Baby asleep	Mother did not try to feed baby or wake him Talked to other patient and to me—said, 'The first day I wasn't interested in seeing him at all "	
27	Baby asleep	Mother uncovered breast, made no attempt to feed or wake baby	5 min
28	Baby moved free hand up by face	Mother pulled baby's hand away from his face, said "No you don't "	

## CASE 16, II — JANUARY 8 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
29	Baby still slept	Mother watched other patient—covered baby's head with blanket Said, "I think they forgot about us—oh well, he doesn't mind" Looked at baby, at other patient, out in hall, talked to other patient	10 min
30	Baby slept	Mother gently rolled baby to wake him	
31	Baby slept	Mother, "He's just as indifferent as he can possibly be" Rolled baby gently, murmured to him	
32	Baby slept	Mother reached for newspaper at bedside—began to read it	15 min
33	Baby whimpered	Mother turned to look at him—said "I think its a good idea to keep his sleeves tied up—I think I'll do the same thing when I get him home "	17 min.
34	Baby asleep	Mother reading newspaper—turned away from baby.	
35	Nurse took baby	Mother, "He's not nursing " Nurse said he was leaving. Mother—no response	25 min.

## CASE 16, III — JANUARY 12

36	Baby brought, awake — not crying	Mother, "Good evening " Turned over on left side, gave baby breast	
37	Baby took breast, began sucking immediately	Mother to me, "He's a better baby than when you were last here "	
38	Baby sucking, eyes open—sucking fairly slow and strong	Mother started talking to other patients and to me—looked around room	
39	Baby closed eyes, stopped sucking, seemed asleep	Mother did nothing	8 min.
40	Baby sucked about 3 times—stopped	Mother looked down at breast—talked to other patient	
41	Baby sucked at intervals —sucked 8-10 times—eyes still closed—sucking intervals grew shorter, rest is longer	Mother paid no attention to baby—talked to other patient	
42	Baby sucking, but very slow and weak — eyes closed	Mother, "Its amazing how they can sleep and eat at the same time " Talked to other patient	15 min
43	Baby sucking	Mother put right hand on baby's shoulder—stroked him—didn't look at him—talked to other patient	

## CASE 16, III — JANUARY 12 (Continued)

<i>Obs. Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
44	Baby sucking.	Mother, "I'm still not used to the idea that its mine." (Referred to baby) Mother looked out of window, said "I'll be so glad when Sunday comes—to go home—I'm getting restless"	19 min
45	Baby stopped sucking—retained nipple in mouth—slept.	Mother talking to other patient—no response	22 min
46	Nurse took baby—baby asleep.	Mother removed nipple from baby's mouth—handed baby to nurse—continued talking to patient	30 min

## CASE 17, I — JANUARY 10

1	Baby brought awake.	Mother shifted around in bed (Nurse asked her if nipples had been washed) Mother, "Yes." Mother told nurse who had washed nipples—she was fine but told this nurse she couldn't suckle baby as she had cold
2	Baby in nurse's arms.	Mother looked at baby
3	Baby taken away by nurse	Mother—no response

## CASE 17, II — JANUARY 11

4	Baby brought asleep	Mother said she didn't feel well today either, though again she had breasts prepared Told nurse she couldn't suckle baby
5	Baby in nurse's arms	Mother looked at baby—said nothing
6	Baby taken by nurse	Mother turned over in bed—closed eyes

## CASE 17, III — JANUARY 15

7	Baby brought awake	Mother sitting up in bed talking to patient in next bed Mother told nurse she had a cold and couldn't start. Nurse asked mother when she couldn't mother talking to other patient
8	Baby in nurse's arms	Mother said she didn't think she would suckle baby as baby was trained to a bottle and it was easier that way—turned away from baby Talked to patient
9	Baby taken by nurse	Mother talking to patient



## CASE 18, I — JANUARY 11

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, awake, blinking eyes	Mother smiled, took baby from nurse Put baby across her knees—rubbed one finger over baby's forehead, around face Looked at baby—around ward—uncovered breasts but didn't try to feed baby	
2	Baby lay in mother's lap—eyes open—didn't cry—lay quietly	Mother continued to stroke baby's face and head Looked around room and at baby	
3	Baby closed eyes	Mother stroking baby's face—tried to insert nipple in baby's mouth	7 min
4	Baby asleep—refused to take nipple	Mother lifted baby closer to breast Rubbed nipple across baby's mouth Tried to insert nipple	
5	Baby refused nipple— asleep	Mother shook baby gently	
6	Baby opened and closed eyes	Mother stopped trying to insert nipple—laid baby on lap Said, "She's a stubborn one—don't want to nurse"	9 min
7	Baby slept	Mother looked at her and around ward	
8	Baby moved both hands under blanket—then held them still—slept	Mother looked at baby—patted baby's head—13 min—played with baby's hair	
9	Baby asleep	Mother watching nurse in ward—then looked at baby—put one hand on baby's legs	
10	Baby continued to sleep	Mother looked around ward, at nurse and back at baby	
11	Nurse came for baby—baby still asleep	Mother gave baby to nurse—patted baby's head once more, said "She sure don't take to it"	25 min

## CASE 18, II — JANUARY 13

12	Baby brought—awake—not crying	Mother put on mask—took baby from nurse—looked at her—tried to give baby breast
13	Baby wouldn't open mouth	Mother stroked baby's head with one finger, slowly and lightly Said, "C'mon little girl" Tried to insert nipple in baby's mouth
14	Baby took nipple—sucked about 3 times—stopped	Mother, "C'mon" (softly), pinched baby's arm, said, "Wake up"
15	Baby's eyes open—held nipple in mouth—sucked about every 1½ minutes and then only 4-5 times	Mother held baby in arms

## CASE 16, III — JANUARY 12 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
44	Baby sucking.	Mother, "I'm still not used to the idea that its mine" (Referred to baby) Mother looked out of window, said "I'll be so glad when Sunday comes—to go home—I'm getting restless"	19 min
45	Baby stopped sucking—retained nipple in mouth—slept	Mother talking to other patient—no response	22 min
46	Nurse took baby—baby asleep	Mother removed nipple from baby's mouth—handed baby to nurse—continued talking to patient	30 min

## CASE 17, I — JANUARY 10

1	Baby brought awake	Mother shifted around in bed (Nurse asked her if nipples had been washed) Mother, "Yes" Mother told nurse who had washed nipples—she was fine but told this nurse she couldn't suckle baby as she had cold
2	Baby in nurse's arms	Mother looked at baby
3	Baby taken away by nurse	Mother—no response

## CASE 17, II — JANUARY 11

4	Baby brought asleep	Mother said she didn't feel well today either, though again she had breasts prepared Told nurse she couldn't suckle baby
5	Baby in nurse's arms	Mother looked at baby—said nothing
6	Baby taken by nurse	Mother turned over in bed—closed eyes

## CASE 17, III — JANUARY 15

7	Baby brought awake	Mother sitting up in bed talking to patient in next bed Mother told nurse she had a cold and couldn't start Nurse asked mother when she could—mother talking to other patient
8	Baby in nurse's arms	Mother said she didn't think she would suckle baby as baby was trained to a bottle and it was easier that way—turned away from baby Talked to patient
9	Baby taken by nurse	Mother talking to patient

## CASE 19, I — JANUARY 12

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought—asleep	Mother smiled broadly, said, "There you are sleeping again Everytime I see you you're sleeping Come on, open your eyes so I can see you " Held baby in arms	
2	Baby opened one eye	Mother, "Atta boy " Mother sat up, picked baby up in arms, cradled him	
3	Baby had both eyes closed again	Mother looked at him, smiled, touched him softly—pulled blanket away—looked closely at baby's face—said, "I wish he'd open his eyes I'd like to see what color they are but he won't for anything Hey, fella, come on " Turned baby around	
4	Baby opened eyes	Mother smiled Put finger on baby's chin	6 min
5	Baby closed eyes	Mother turned baby's head from side to side Shifted baby in arms—said, "Atta boy—come on and open your eyes Tck, Tck "	
6	Baby continued to sleep	Mother, "Hey,"—laughed—"sleeping all the time " Held baby, looked at baby, smiled, said, "Come on and open your eyes so I can see 'em Come on—always sleeping " Looked at baby's feet, laughed at them—picked one up in hand, said, "They're cute " Chuckled—covered baby up again	15 min
7	Baby yawned	Mother, "Hey stop yawning "	
8	Baby squealed	Mother, "What's the matter honey? Something bothering you? I d give anything if you'd open your eyes a second —for Pete's sake "	
9	Baby slept until nurse came and took him	Mother, "Goodbye honey, goodbye Hope you'll wake up next time, sleepy-head " Watched nurse take him, said, "They're so cute "	20 min

## CASE 19, II — JANUARY 14

10	Baby brought, eyes blinking	Mother, "Hey cutie Where were you? Well, well—is that an eye open for a change? Cutie, c'mon—open the other one " Laughed
11	Baby opened both eyes	Mother, "Atta boy " Talked to patient
12	Baby closed both eyes	Mother smiled down at him, said, "You're bald—have to get you a toupee " Chuckled baby under chin, poked his face, said, "I want him to open his eyes "

## CASE 18, II — JANUARY 13 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
16	Baby closed eyes	Mother flicked fingers on baby's hand	
17	Baby kept eyes closed	Mother flicked harder	
18	Baby whimpered now and then—sucked as before	Mother manipulated breast—adjusted it—flicked baby's hand	
19	Baby's eyes closed—sucked as before	Mother shook baby Took breast out of baby's mouth Said, "Wake up" (louder than before) Pinched baby's cheeks—rubbed nipple across baby's mouth	9 min
20	Baby opened eyes—took nipple but didn't suck	Mother removed nipple from baby's mouth Lifted baby up—put her on shoulder—patted baby's back	
21	Baby closed eyes	Mother put baby on lap again	
22	Baby opened eyes	Mother lifted baby to breast Rubbed nipple across baby's mouth	
23	Baby took nipple—didn't suck	Mother flicked baby's hand again	
24	Baby closed eyes—opened them—closed them	Mother turned baby a bit Began to pat her on back—hard	
25	Baby opened eyes—held nipple in mouth but did not suck—closed eyes	Mother hit baby's hand harder	
26	Baby grunted, didn't suck	Mother sighed, said "Huh" Hit baby's hand, said, "Wake up" Looked around ward Hit baby's hand fast and hard, said "Wake up" now and then	15 min
27	Baby held nipple in mouth, wouldn't suck—eyes closed	Mother, 'C'mon I'm not going to let you sleep You'll lose weight and get sick C'mon'	
28	Baby whimpered—sucked about 3 times	Mother hit baby's hand	
29	Baby opened and closed eyes at intervals Didn't suck again	Mother kept on hitting baby's hand, resting only a few seconds at a time	
30	Baby held nipple, not sucking	Mother, 'Come on—I've been fooling with you for almost half hour' (voice louder)—hit baby harder and faster	21 min
31	Baby didn't suck	Mother removed nipple from baby's mouth, covered her up Hit baby's hand and back occasionally, but not very hard	26 min
32	Baby slept	Mother, "I'm tired of it" Talked to patient in next bed—looked at baby once in a while	33 min
33	Baby slept	Mother, 'She'll be hungry this evening Put baby on bed beside her, picked up newspaper and read it	
34	Nurse came and took baby	Mother continued reading paper—no response	

## CASE 19, III — JANUARY 18 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
31	Baby grimaced—stopped crying	Mother laughed, said, "Oh what a darling face"	
32	Baby whimpered	Mother, "Oh no—please don't cry now"	
33	Baby was quiet, lay still, eyes open	Mother looked at him, smiled	
34	Baby put his hands in his mouth	Mother, "What're you doing that for? Hungry?" Took baby's hands out of his mouth	
35	Baby put hands back in mouth	Mother, "Don't do that—you'll choke on them—that's silly" Took baby's hands out of his mouth	
36	Baby started to cry	Mother, "Oh don't — it scares me when they cry"	
37	Baby stopped crying, sighed	Mother, "Oh my goodness, what a sigh, Goodness, sweetness"	
38	Baby lay and looked at mother	Mother smiled at him	
39	Baby started to whimper	Mother, "Oh, oh—what's the matter? Are you hungry? You chew your hands like a pup. Oh darling—they'll feed you when you're through. You look so uncomfortable"	8 min
40	Baby stopped crying—eyes half closed	Mother held him, smiled	
41	Baby moved hand, started to cry—finger brushed eye	Mother, "Oh, you did that yourself. You punched yourself right in the eye" Mother pulled baby closer to her	
42	Baby made sucking movements with mouth—put his hands in mouth	Mother, "They must not feed them at all" Took baby's hands out of his mouth, cuddled him, smiled	
43	Baby put hands in mouth, whimpered	Mother, "I wish I could do something for you, but I can't"	14 min
44	Baby started to cry	Mother talked to other patient—cuddled baby closer, said, "Oh darling"	
45	Baby stopped crying, looked at mother, put hands in mouth	Mother talked to other patient, looked at baby	
46	Baby grimaced	Mother laughed, said, "Oh cutie—watcha looking at?"	
47	Baby started to cry	Mother jiggled him in arms a bit	
48	Baby stopped crying	Mother, "Say did you see what daddy brought you? Did you? An animal five times your size"	
49	Baby started to cry	Mother, "You're not interested. Oh darling—please don't cry. I just can't stand to hear them cry" Kissed baby's head—said, "I snuck one in, but don't tell the nurse"	
50	Nurse took baby who was awake and whimpering	Mother, "Oh, please feed them—they're so hungry"	19 min

## CASE 19, II — JANUARY 14 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
13	Baby slept	Mother pinched baby's cheek and neck Held baby up in air, smiled—laughed	
14	Baby half-opened one eye	Mother, "Oh, atta boy—almost did it C'mon, c'mon"	
15	Baby closed eye again	Mother, "Hey snooks—come on— sleepyhead" Laughed, rocked him in arms—opened blanket, looked at baby's feet, said, "Come on and stretch your feet out"	
16	Baby's legs bent at knees, baby asleep	Mother covered him up, sat looking at him	
17	Baby whimpered	Mother, "Say that's the first sound I've heard out of you Let's hear what you sound like—go on and cry."	
18	Baby was quiet, slept, mouth open	Mother laughed, said, "Hey close your mouth"	
19	Baby opened both eyes	Mother, "Well, well—Hallelujah"	
20	Baby closed eyes again	Mother, "Oh keep them open so I can see them" Started to pinch baby's cheek	
21	Baby slept	Mother held baby closer to her, smiled	10 min
22	Baby shook head, eyes still closed	Mother, "Oh you cutie"—laughed "Come on and open your eyes It seems to be such an effort for you—come on"	
23	Baby kept eyes closed	Mother, "Open your eyes precious"	
24	Baby slept	Mother, "I'm beginning to think they gave you knock-out drops too You have such pretty eyes if you keep them open You look like your daddy" Mother held baby in air in front of her —smiled	
25	Baby slept	Mother laughed at him—put baby in lap, said, "I can see you better this way —open your eyes darling—you've got all day to sleep and I can only see you this little bit"	15 min
26	Baby slept	Mother turned baby's head over	
27	Baby's head flopped to one side	Mother laughed, said, "Oh you darling you sweet" Held him	
28	Baby slept	Mother held him, said nothing, smiled and laughed now and then	
29	Nurse came and took baby—baby asleep	Mother, "Aw you brought him late and took him early—its not fair Well, good- bye darling—I'll see you tomorrow"	20 min

## CASE 19, III — JANUARY 18

30	Baby brought, awake, crying	Mother, "What's he doing? Crying again? Hey that's not nice What's the matter with you?" Held baby on her knee
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## CASE 20, II — JANUARY 15 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
18	Baby sucked at intervals—resting every 10–20 sucks	Mother did nothing to urge baby to suck. Looked at baby now and then. Stared into space. Mother kept her hand on one breast.	
19	Baby sucked, rested, sucked	Mother—no response	
20	Baby stopped sucking, retained nipple in mouth	Mother did nothing, looked down at baby—stared into space	
21	Baby not sucking, holding nipple	Mother looked at baby—removed nipple from baby's mouth	17 min
22	Baby made about 4 sucking movements with mouth, then lay still, eyes closed—hands moved under blanket	Mother covered breast, turned half on back, stared at ceiling	
23	Baby stirred in sleep	Mother—no response	21 min
24	Baby made sucking movements with mouth—eyes still closed	Mother didn't see sucking movements—stared at ceiling—no response	
25	Baby stopped making sucking movements—slept	Mother closed eyes	24 min
26	Nurse took baby from mother's side—baby sleeping	Mother—no response	30 min

## CASE 20, III — JANUARY 17

27	Baby brought asleep—put in bed by nurse	Mother put down book, turned to get mask. Nurse told her "to make eat, baby needs more weight." Mother shifted in bed, then began flicking baby's hand to wake him.	
28	Baby moved free hand in air, shook head, eyes still closed	Mother hit baby's hand harder—laughed. Talked to next patient—said, "He's determined he ain't going to wake up." Sighed, said "Ugh." Stopped hitting baby's hand.	
29	Baby lay quietly, eyes closed	Mother began hitting baby's hand again—faster and harder.	
30	Baby continued to sleep	Mother said, "Ugh"—rolled baby on bed, hit his hand.	
31	Baby slept	Mother put on clean mask—tried to put baby to breast—rubbed nipple across baby's mouth 3 times.	4 min
32	Baby kept eyes closed, didn't take nipple	Mother hit baby's hand again.	
33	Baby waved one hand in air—eyes still closed	Mother hit baby's hand again.	

## CASE 20, I — JANUARY 13

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, asleep	Mother put on mask, took baby, laid it beside her on bed—tried to give baby breast	
2	Baby—no response	Mother patted baby's chin a few times to wake her—held nipple in front of baby's mouth, tried to give her breast	
3	Baby slept—didn't take nipple	Mother patted baby's chin again, tried to insert nipple	
4	Baby took nipple—didn't open eyes—held nipple a few seconds, then began sucking. Fingers of free hand opened and closed a few times, then were still. Sucking weak and slow		4 min
5	Baby stopped sucking, retained nipple in mouth	Mother did nothing	
6	Baby not sucking—nipple in mouth	Mother removed nipple from baby's mouth—looked at baby	6 min
7	Baby made sucking movements with mouth	Mother looked at baby—did nothing	
8	Baby's eyes still closed—stopped making sucking movements—lay still	Mother turned over, away from baby, covered breast	8 min
9	Baby lay very still, eyes closed	Mother turned back, looked at baby, then around ward	
10	Baby asleep	Mother uncovered breast, tried to reinsert nipple	15 min
11	Baby took nipple sucked a few times, about 5, rested, sucked again—eyes still closed	Mother had her hand on the breast. Didn't urge baby to suck	
12	Baby stopped sucking	Mother removed breast from baby's mouth—covered breast	
13	Baby lay still, eyes closed	Mother lay and looked at baby—didn't move or speak	
14	Nurse came and took baby who was still asleep	Mother — no response	23 min

## CASE 20, II — JANUARY 15

15	Baby brought, asleep	Mother took baby from nurse, said nothing. Put baby beside her on bed, put on mask, uncovered right breast—tried to give baby breast
16	Baby opened one eye, closed it — didn't take nipple	Mother brushed nipple across baby's mouth
17	Baby took nipple, sucked. Sucking fairly weak—very slow	Mother stared into space



## CASE 21, I — JANUARY 17

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, asleep, put beside mother	Mother, "Where is she? She's so small" Laughed, tried to give baby breast	
2	Baby waved free hand, eyes still closed — free hand still	Mother jiggled baby's cheek, gently, said, "Come on" Tried to insert nipple	
3	Baby refused nipple	Mother patted on back, said, "You're making me mad Come on" Smiled, rubbed nipple across baby's mouth, said, "Come on" Hit baby's hand, slapped hand	
4	Baby slept	Mother, "She won't wake up Bad girl Come on"	
5	Baby slept.	Mother rubbed nipple across baby's lips	
6	Baby slept, didn't take nipple	Mother rolled baby on bed, slapped her hand and cheek gently	
7	Baby slept — free hand waved by ear now and then	Mother, "Tsk, ts—come on" Hit baby on back, hit baby's hand, rubbed nipple across baby's lips	10 min
8	Baby slept	Mother, "You're lazy — come on Please" Hit baby on hand and cheek —looked down at breast, frowned—hit baby's hand and back	
9	Baby slept	Mother put hand under blankets, began patting baby's feet	
10	Baby slept	Mother stopped trying to wake baby—lay and looked at her—half smiled—pulled blankets around baby's head	
11	Baby slept	Mother rearranged blankets—pulled baby closer to her, cuddled her, looked at her, smiled	17 min
12	Baby slept	Mother patted baby on back again, very gently and slowly	20 min
13	Baby slept	Mother rubbed finger on baby's cheek —tried to insert nipple in baby's mouth, said "Come on"	
14	Baby slept, didn't take nipple	Mother stopped trying to waken baby, looked around ward, back at baby Put one hand on baby's back, smiled at her	24 min
15	Nurse came and took baby Baby asleep.	Mother, "I couldn't get her to wake up, she was very bad today" Laughed Mother removed mask, watched nurse take baby	30 min.

## CASE 20, III — JANUARY 17 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
34	Baby started to cry	Mother tried to put baby to breast	10 min
35	Baby refused to take nipple	Mother pushed nipple at baby	
36	Baby put hands in mouth, refused nipple	Mother tried to push nipple in baby's mouth	
37	Baby shook head vigorously, refused nipple—tasted it but wouldn't hold it	Mother rolled baby on bed, tried to insert nipple	
38	Baby cried, refused nipple	Mother sat up, picked baby up in arms Held arms down and head tight—tried to give baby breast	
39	Baby refused to take nipple	Mother lay down, put baby beside her Shoved nipple at baby	
40	Baby opened eyes, refused to take nipple	Mother tried to insert nipple again	
41	Baby tasted nipple, took it, sucked 2-3 times, stopped	Mother shifted around in bed, groaned, shook baby hard	
42	Baby didn't suck, released nipple	Mother sat up, leaned over baby, shoved nipple at him	
43	Baby took nipple after a few seconds, sucked about 10 times, stopped	Mother lay back on pillows	
44	Baby held nipple but didn't suck	Mother hit baby's hand to urge him to suck	
45	Baby held nipple, then sucked 5-6 times, weak and slow—rested long periods every 5-6 sucks	Mother — no response	
46	After about 25 sucks in all, baby stopped, released nipple	Mother tried to reinsert nipple	
47	Baby shook head, clamped lips together, refused nipple	Mother kept trying to insert nipple—held baby's head still	
48	Baby took nipple sucked 10 times, released nipple	Mother tried to reinsert nipple	
49	Baby pushed at mother's breast with both hands, clamped lips together, refused nipple—closed eyes	Mother lay down, moved away from baby, sighed, said "Ohhhh," stopped trying to feed baby—wiped breasts which were leaking, grinned—looked away from baby	21 min
50	Baby slept	Mother sat up, covered breast, lay down, back to baby, picked up book, read	
51	Nurse took baby, asked mother if he had eaten—baby asleep	Mother, "He won't eat" Sighed, removed mask—read again	30 min.

## CASE 21, II — JANUARY 20 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
35	Baby sucked when coaxed—sucked only about 10 times between rests, rests longer, sucking slower	Mother urged baby to suck, when baby rested—juggled baby's cheek and breast—shifted baby a little to be more comfortable	
36	Baby rested a long time	Mother juggled baby's cheek harder and faster	
37	Baby sucked 3-4 times, stopped	Mother juggled baby's cheek	
38	Baby didn't suck—eyes still closed	Mother pinched baby's cheek about 10 times	
39	Baby didn't suck	Mother removed nipple from baby's mouth, hit baby's hand and face, tried to insert nipple in baby's mouth	
40	Baby kept eyes closed—no response to slapping—refused nipple	Mother hit baby's hand and face, and again tried to insert nipple	
41	Baby refused nipple, slept	Mother patted baby's back, whispered "Come on, I've still got plenty for you"	
42	Baby slept	Mother sighed, hit baby's hand	
43	Baby slept	Mother hit baby's hand and juggled cheek	
44	Baby slept	Mother, "Well that is not very much but I guess you're full" Stopped hitting baby and trying to insert nipple	
45	Baby slept	Mother held baby in arms, covered breast Looked at baby and into space	
46	Nurse returned, took baby who still slept	Nurse asked if baby was through Mother said yes and removed mask When nurse took baby away, no response	27 min

## CASE 21, III — JANUARY 24

47	Baby brought — nurse held baby, baby blinking eyes	Mother reached out arms, smiled, whispered "Hello"	
48	Baby closed eyes	Mother patted baby's hand and cheek softly, said, "Oh you're always so sleepy Hey wake up" Asked nurse how baby liked her bottle—played with baby's hand	
49	Nurse took baby away—baby slept	Mother smiled at baby, said, "Goodbye honey"	4 min

## CASE 21, II — JANUARY 20

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
16	Baby brought — awake but not crying	Mother ready and said, "Hello " Took baby and gave her breast	
17	Baby started sucking immediately—sucking slow, fairly strong	Mother, "You're getting good " Smiled	
18	Baby sucked, eyes open — rested every 20 - 30 sucks	Mother jiggled breast when baby rested to urge her to suck	
19	Baby coughed, free hand waved in circles, very fast	Mother removed breast from baby's mouth, said ' Oh my milk comes too fast for her " Called nurse	
20	Baby closed eyes when mother removed breast—didn't cry	Mother put baby back to breast	10 min
21	Baby took nipple, didn't suck—eyes still closed	Mother hit baby's hand, said, "Come on honey—wake up "	
22	Baby sucked, opened and closed eyes twice—rested every 15-20 sucks	Mother jiggled breast when baby rested	
23	Baby coughed — waved both hands in air wildly	Mother, "Aw—its coming out too fast for you " Called nurse—nurse said to burp her	
24	Nurse bubbled baby who burped — baby opened eyes	Mother, "Come here, come here, aw she's all wet from the milk—ugh " Put baby back to breast	
25	Baby whimpered, cried, then sucked Rested every 15-20 sucks	Mother laughed, looked at baby, smiled	
26	Baby sucked	Mother looked around ward, at baby, around ward again	
27	Baby closed eyes, continued sucking — rested about every 15 sucks	Mother jiggled breast when baby rested to urge her to suck	
28	Baby sucked when coaxed	Mother manipulated breast and shook baby gently to urge her to suck—said "How nice she sucks " Smiled at baby, stared at foot	12 min
29	Baby rested	Mother jiggled baby's cheek	
30	Baby didn't suck	Mother jiggled baby's cheek harder	
31	Baby sucked	Mother looked at her, covered baby's hands with blanket	
32	Baby grunted every now and then	Mother frowned when baby grunted	
33	Baby rested longer time	Mother jiggled baby's cheek	
34	Baby waited a few seconds, then resumed sucking	Mother continued to jiggle baby's cheek and manipulated breast to urge to suck	

## CASE 22, III — JANUARY 26

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
15	Nurse came and asked if mother wanted to see baby (refer to original record)	Mother said, "Oh I don't want to trouble you God knows he's enough trouble already No I can wait to see him this evening, and anyway I'll see plenty of him and the others No that's O K Don't bother" Picked up a book and read	

## CASE 23, I — JANUARY 24

1	Baby brought, asleep, put by mother	Mother immediately tried to give baby breast Brushed nipple across his mouth	
2	Baby took nipple, sucked 4-5 times, stopped—eyes still closed — released nipple	Mother put left hand on baby's back Tried to reinsert nipple Held it touching baby's lips	
3	Baby grimaced—moved head away from nipple	Mother smiled	
4	Baby whimpered	Mother patted baby, smiled, looked around ward	5 min
5	Baby whimpered again, moved free hand up and down by head Eyes still closed	Mother looked down at baby, rearranged baby's blankets, patted baby's back	
6	Baby slept	Mother covered breast, turned on back	
7	Baby whimpered	Mother looked at her, patted feet and back lightly and gently	
8	Baby slept—moved free hand, then held it still	Mother turned her head away, kept hand around baby, stared at ceiling Shifted her feet under covers Looked at arm occasionally and at baby occasionally	
9	Baby slept	Mother looked at her own arm, shifted pillows Drummed fingers on sheet Looked around ward Looked at baby Seemed tense Was never still or relaxed	12 min
10	Baby slept, moved feet under blankets	Mother smiled, felt baby's clothes, looked at ceiling	14 min
11	Nurse took baby who was still sleeping	Mother patted baby's back once more, watched nurse take baby, removed mask	17 min

## CASE 22, I — JANUARY 20

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, asleep—put by mother	Mother talking to another patient—moved over in bed, said, "Well hello "	12 min.
2	Baby slept	Mother unwrapped blankets a little, said, "He is cuter than my last one was when he was this old—he'll do, I guess, but so many kids " Looked at baby	
3	Baby moved right hand up by face	Mother, "You're asleep so I won't wake you If you woke up you'd probably holler and I get enough of that at home Go on and sleep "	
4	Baby slept	Mother talked to other patients about movies and actors—didn't put arm around baby	
5	Baby slept	Mother talking, looked at baby now and then, said, "Go on and sleep "	
6	Baby moved a hand	Mother, "Stay asleep—I like you best that way " Talked to other patients	
7	Nurse took baby who was still asleep	Mother, "He's very good—he didn't even wake up "	

## CASE 22, II — JANUARY 24

8	Baby brought asleep	Mother lying, eyes closed—nurse asked if she wanted to see baby Mother opened eyes, said, "Oh, O K , for a little while but if he screams, come take him I hear enough crying with the others "	8 min
9	Baby slept	Mother hit baby's hand, said, "You're always asleep—open your eyes for me but don't cry." Hit baby's hand.	
10	Baby opened and closed eyes	Mother, "Aw c'mon — keep 'em open now " Hit baby's hand harder	
11	Baby whimpered—blinked eyes rapidly.	Mother, "Now stop it No crying you hear You bad thing"— kept hitting baby's hand	
12	Baby cried, waved both hands in air wildly.	Mother, "Oh you're horrible—didn't I tell you not to cry? Hush up " Stopped hitting baby's hand—didn't try to comfort baby	
13	Baby cried	Mother, "Nurse please come and take him—he's crying and must be hungry. I can't make him stop "	
14	Nurse came and took baby—baby crying and waving hands — nurse talked to him	Mother watched nurse take baby—Said, "Tek—such a racket. Why aren't they born with a voice They make so much noise for nothing " Turned and started talking to another patient	

## CASE 24, I — FEBRUARY 22

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
1	Baby brought, asleep	Mother, "That's mine—you sleeping—now wake up, you—Mary—come on Mary—come on, come on" Tried to give baby breast	
2	Baby had locked hand by mouth	Mother moved baby's hand down, tried to insert breast	
3	Baby didn't take nipple	Mother, "Oh you're in one of your sleepy moods now" Laughed, said, "Hey, come on now Hey, hey"	
4	Baby whimpered, eyes closed	Mother whimpered in imitation, patted baby's back and cheek, said, "Alright now Come on, wake up, c'mon"	
5	Baby took nipple, didn't suck, released nipple	Mother tried to reinsert nipple, patted baby's cheek	
6	Baby took nipple, sucked about 10 times	Mother, "There — that's it"	
7	Baby released nipple, passed gas	Mother, "Oh, that's the trouble No wonder you don't want to eat"	
8	Baby grimaced	Mother laughed, tried to insert nipple, said, "Come on fat stuff—hey, hey"	
9	Baby didn't take nipple, eyes still closed	Mother, "You just want to sleep" Laughed—patted baby's cheek	
10	Baby waved free hand	Mother tried to insert nipple	
11	Baby didn't take nipple	Mother, "No she's not hungry" Tried to insert nipple	
12	Baby took nipple, sucked	Mother, "Ouch!"	
13	Baby sucked about 10 times, stopped, retained nipple in mouth	Mother jiggled breast violently to urge baby to suck	
14	Baby waited, then sucked	Mother looked at baby, smiled, clicked tongue, rearranged baby's blanket	
15	Baby sucking at intervals, fast and strong Rested every 7-19 sucks	Mother fussed with baby's blanket Jiggled breast when baby rested	7 min
16	Baby released nipple	Mother laughed, rubbed nipple across baby's mouth	9 min
17	Baby took nipple, sucked	Mother covered baby with blanket, lay down, stared at ceiling, left hand on breast	
18	Baby sucking and resting	Mother jiggled breast when baby rested Mother looked around ward, talked to another patient—looked at baby now and then	
19	Baby sucking and resting	Mother lay back on pillows, stared at ceiling, turned head to watch next patient, then peeked under blanket at baby Jiggled breast from time to time	16 min

## CASE 23, II — JANUARY 26

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
12	Baby brought asleep	Mother put on mask, uncovered breast, tried to give it to baby	
13	Baby shook head, put free hand between mouth and breast	Mother pushed baby's hand away, tried to insert nipple	
14	Baby took nipple, sucked strong, slow—eyes still closed	Mother looked at baby, at me, around ward—arranged baby's blankets	
15	Baby rested every 25–30 sucks Resumed sucking of own accord	Mother lay quietly, stared at floor	
16	Baby grunted	Mother looked at breast, juggled it	
17	Baby sighed, sucked, eyes closed Rested every 15–20 sucks Rests became longer	Mother juggled breast when baby rested to urge her to suck	5 min
18	Baby rested a long time	Mother juggled breast and baby's free arm	
19	Baby moved free arm up and down — sucked		
20	Baby stopped sucking	Mother patted baby's back, head, juggled baby's free arm	8 min
21	Baby sucked	Mother lay still, looked at baby, stared at floor	
22	Baby coughed, spit up milk	Mother removed breast from baby's mouth	
23	Baby put head back, free hand on ear	Mother patted baby's back, played with her hand, looked at her	
24	Baby made sucking movements with mouth	Mother gave baby breast	13 min
25	Baby sucked — sucking much slower, rested about every 6 sucks	Mother had one hand on breast Jiggled breast if baby rested too long	
26	Baby sucked when coaxed	Mother juggled breast, then lay quietly, stared at floor	18 min
27	Baby still sucking occasionally when nurse came and took baby Baby had eyes closed, didn't cry	Mother watched nurse take baby, removed mask, covered breast, lay down	21 min



## CASE 24, II — FEBRUARY 24 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
38	Baby raised free arm under blanket		19 min
39	Baby sucking (biting)	Mother groaned	
40	Baby sucking — rested every 5-6 sucks	Mother sighed and groaned	
41	(Nurse returned) Baby sucking	Mother, "Thank God!" Removed nipple from baby's mouth	
42	Nurse took baby—baby raised both hands in air, then held them still — eyes half open—didn't cry	Mother pushed baby into nurse's arms, said, "Oh, Oh God! It's terrible" Put hand on breast	

## CASE 25, I — FEBRUARY 22

1	Baby brought, asleep	Mother ready to nurse—held nipple in front of baby's mouth	
2	Baby didn't take nipple	Mother shook baby once, gently, held nipple in front of baby's mouth	
3	Baby kept eyes closed—didn't take nipple	Mother patted baby's back twice, gently Held nipple in front of baby's mouth	
4	Baby slept—didn't take nipple	Mother patted baby's feet, stared into space—looked at baby—patted his back	
5	Baby took nipple, sucked about 3 times—stopped	Mother patted baby's back faster, said, "He's asleep"	5 min
6	Baby held nipple in mouth, not sucking	Mother hit baby's back a little	
7	Baby released nipple, slept with mouth open	Mother lay holding nipple to baby's mouth—looked at him, said, "Sleepy" Laughed	7 min
8	Baby raised both arms, stretched, pushed at mother's breast	Mother pushed baby's hand under blanket Put nipple to baby's lips—patted baby's back	
9	Baby lay quietly—eyes closed	Mother looked at baby—patted his back	
10	Baby took nipple, didn't suck — released nipple, slept with mouth open	Mother put nipple between baby's lips	9 min
11	Baby slept, not holding nipple	Mother patted baby's back now and then	
12	Baby slept—grunted	Mother, "Wake up—wake up—he's so sleepy" Laughed—lay back on pillows, kept nipple between baby's lips, patted his back now and then	
13	Baby waved free hand, then held it still, slept	Mother watched doctors in ward	
14	Baby slept, lay very still	Mother, "You won't wake up Come on, wake up" Patted baby's back	12 min
15	Baby slept	Mother lay quietly, patting baby—kept nipple by mouth	
16	Nurse returned, took baby who still slept	Mother, "Such a sleepy head" Removed mask—watched nurse take baby	17 min

## CASE 24, I — FEBRUARY 22 (Continued)

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
20	Baby sucking	Mother, "Ouch, oh!" Smiled at baby	20 min.
21	Baby rested longer time	Mother jiggled breast harder, said, "Come on"	
22	Baby sucked weakly	Mother, no response	25 min
23	Nurse came, baby still sucking	Mother, "Come on, fat stuff, that's all for today—you should start sooner if you're going to eat so much" Removed breast from baby's mouth	
24	Baby kept eyes closed, didn't cry—made about 5 sucking movements with mouth—then was still—nurse took baby	Mother turned over, removed mask Talked to other patients	

## CASE 24, II — FEBRUARY 24

25	Baby brought, awake and whimpering.	Mother sitting up—took baby, put to breast immediately	
26	Baby took nipple, sucked, fast and strong, hardly rested (biting)	Mother winced now and then, said, "Ouch!" Squeezed breast at times, right hand at breast	
27	Baby sucking	Mother talked to other patients, joked, looked at me, around ward	
28	Baby rested longer time, sighed, sucked again of own accord	Mother talking to other patients	8 min
29	Baby sucking — rested every 30-40 sucks—rests became longer	Mother said, "Ouch!" at times—squeezed breast—talked to patients	11 min
30	Baby sucked—closed eyes	Mother talking	
31	Baby released nipple a second, took it again	Mother talking to other patients Shifted feet under covers	13 min
32	Baby sucking and resting	Mother took right hand from breast, stretched fingers, groaned, and then put hand back on breast Mother looked at baby, frowned—looked around ward—talked to other patients	
33	Baby sucking — rested every 15-20 sucks	Mother looked at baby, sighed—removed nipple from baby's mouth	
34	Baby made sucking movements with mouth—opened eyes—didn't cry	Mother put baby on shoulder, bubbled her, grunted	
35	Baby whimpered	Mother, "Shut up" Put baby to breast again	
36	Baby took nipple, sucked, sucking a little slower than before, rests longer	Mother didn't urge baby to suck when she rested—talked to others, stared into space, looked at baby now and then	16 min
37	Baby put free hand on cheek	Mother pushed baby's hand under covers, covered up baby's arm	

## CASE 25, III — FEBRUARY 26

<i>Obs Unit</i>	<i>Baby's Behavior</i>	<i>Mother's Response</i>	<i>Time</i>
32	Baby brought, asleep	Mother took baby, tried to give baby breast	
33	Baby took nipple, sucked, fast and strong, rested every 3-5 sucks	Mother juggled breast slightly when baby rested	
34	Baby sucked when coaxed — opened eyes, closed them	Mother coaxed baby to suck when he rested	2 min
35	Baby released nipple, moved head back from breast	Mother tried to reinsert nipple	3 min
36	Baby took nipple, sucked — eyes open — rested every 15-25 sucks	Mother had left hand on breast Mother looked at baby, around ward, at me	
37	Baby took long rest	Mother — no response	5 min
38	Baby closed eyed — resumed sucking of own accord—stopped sucking	Mother did nothing for a moment, then juggled breast to urge baby to suck	
39	Baby sucked about 3 times, stopped, retained nipple in mouth—half opened eyes		
40	Baby sucked of own accord Rested about every 10 sucks Grunted, sighed	Mother held breast, looked at baby	
41	Baby moved locked hand, sucked	Mother played with baby's hand a minute, then put her own hand back on breast	
42	Baby passed gas, sucked		
43	Baby released nipple	Mother waited a moment—tried to reinsert nipple	8 min
44	Baby took nipple, sucked, released nipple	Mother waited a moment—tried to insert nipple	
45	Baby took it, sucked, released it—grunted	Mother looked at baby	
46	Baby took nipple of own accord, sucked — rested about every 10 sucks		
47	Baby released nipple	Mother tried to reinsert nipple	
48	Baby didn't take nipple	Mother tried to reinsert nipple	

## CASE 25, II — FEBRUARY 24

Obs Unit	Baby's Behavior	Mother's Response	Time
17	Baby brought crying, awake	Mother, "That's mine again—come here" Gave baby breast	
18	Baby tasted nipple	Mother, "Don't you like the taste?"	
19	Baby took nipple, sucked, made loud noises—rested every 15–20 sucks—sucking slow and strong — started again of own accord	Mother smoothed baby's blanket, put left hand on breast—lay quietly, looked at baby	
20	Baby sucking, resting, sucking—eyes open	Mother looked at baby, at me, at baby	3 min
21	Baby closed eyes, continued to suck	Mother fussed with baby's blanket, looked around ward, listened to nurses talking—drummed her fingers on breast at times	5 min
22	Baby sucking	Mother looked around ward, laughed at something said—looked at baby now and then	
23	Baby sucking — rested every 8–10 sucks	Mother didn't urge baby to suck, but baby started of own accord	
24	Baby sucking, slower, rests longer	Mother put her hand which had been on her breast, on baby's feet, looked at baby, around ward	
25	Baby stopped sucking—retained nipple in mouth	Mother, "Must be full now He stopped—that's all" Removed nipple from baby's mouth	13 min
26	Baby slept, didn't move	Mother lay quietly, looked at baby, stroked baby's hair lightly with fingers	
27	Baby slept	Mother covered breast, sat up, picked up baby in arms, said, "Come on—belch" Bubbled baby on shoulder	
28	Baby kept eyes closed, burped	Mother, "Atta boy" Put baby down again—tried to give him breast—brushed nipple across baby's lips once	
29	Baby slept—didn't take nipple	Mother shook head, covered breast—watched doctor in ward	
30	Baby slept	Mother looked at baby—around ward	
31	Nurse took baby, asleep	Mother watched nurse, removed mask—lay down—said nothing	19 min

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49	Baby didn't take nipple	Mother sat up, picked up baby, put him on shoulder, bubbled him	12 min
50	Baby didn't cry, eyes open	Mother lay down again—tried to give baby breast, said, "Come on"	
51	Baby took nipple, sucked, eyes open—rested every 10 sucks	Mother stroked baby's hair lightly with fingers, then put own left hand on breast	
52	Baby rested longer time	Mother tapped breast with fingers	15 min
53	Baby sucked, eyes blinking	Mother smoothed baby's blanket, returned hand to breast	
54	Baby closed eyes, stopped sucking, retained nipple	Mother stroked baby's hair	
55	Baby sucked 6-10 times, stopped, started, released nipple	Mother moved back from baby	18 min
56	Baby moved both hands up and down, shook head, made sucking movements with mouth	Mother moved close to baby, gave him breast, said, "More?"	
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